Academic Quality and Workforce

60x30TX

Texas Higher Education Coordinating Board

Expenditures under Texas Comprehensive Research Fund (TCRF) and Core Research Support Fund (CRSF) FY 2017

February 2018

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Texas Higher Education Coordinating Board

Agency Mission

The mission of the Texas Higher Education Coordinating Board (THECB) is to provide leadership and coordination for the Texas higher education system and to promote access, affordability, quality, success, and cost efficiency through *60x30TX*, resulting in a globally competitive workforce that positions Texas as an international leader.

Agency Vision

The THECB will be recognized as an international leader in developing and implementing innovative higher education policy to accomplish our mission.

Agency Philosophy

The THECB will promote access to and success in quality higher education across the state with the conviction that access and success without quality is mediocrity and that quality without access and success is unacceptable.

The Coordinating Board's core values are:
Accountability: We hold ourselves responsible for our actions and welcome every opportunity to educate stakeholders about our policies, decisions, and aspirations.
Efficiency: We accomplish our work using resources in the most effective manner.
Collaboration: We develop partnerships that result in student success and a highly qualified, globally competent workforce.
Excellence: We strive for excellence in all our endeavors.

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Executive Summary

In 2001, the Texas Legislature created the Texas Excellence Fund and the University Research Fund to enhance research. In 2003, the Texas Legislature combined the two funds to establish the Research Development Fund (RDF), effective Fiscal Year (FY) 2006. The RDF supported increased research capacity at eligible public universities (all public institutions, except The University of Texas at Austin and Texas A&M University) by providing funds by a set allocation formula to enhance research efforts.

In 2015, the Texas Legislature abolished the Research Development Fund, effective FY 2016, and created the Core Research Support Fund (CRSF) for emerging research universities. The Texas Legislature also created the Texas Comprehensive Research Fund (TCRF) for all public four-year institutions of higher education that are not research or emerging research universities.

Each biennium, CRSF and TCRF appropriations by institution are included in the General Appropriations Act, House Bill (HB) 1, 84th Texas Legislature. These funds may be used for two additional fiscal years beyond the original appropriation year until the funds are spent, encumbered and spent, or lapsed per the Texas Comptroller of Public Accounts. Therefore, expenditures by institution and appropriations totals may vary for any given fiscal year.

Institutions that received funds from the CRSF or the TCRF submitted information about how they used the appropriated funds in the preceding fiscal year. This report contains that information.

A summary of expenditures under the Core Research Support Fund (CRSF) in FY 2017 are presented in Table 1. A summary of expenditures under the Texas Comprehensive Research Fund (CRSF) in FY 2017 are presented in Table 2.

Table 1. Expenditures under Core Research Support Fund (CRSF) FY 2017.

Institution	Salaries/ Wages for New or Reassigned FTEs	Salaries/ Wages for Existing FTEs	Operating Expenses	Capital Expenditures	Total
Texas State University	$2,169,097	$0	$1,190,907	$1,278,926	**$4,638,931**
Texas Tech University	$662,780	$9,826,352	$565,535	$284,908	**$11,339,575**
The University of Texas at Arlington	$0	$6,738,468	$0	$0	**$6,738,468**
The University of Texas at Dallas	$0	$8,609,851	$390,377	$0	**$9,000,228**
The University of Texas at El Paso	$1,484,429	$4,189,240	$1,695,860	$532,116	**$7,901,644**
The University of Texas at San Antonio	$249,467	$4,765,733	$218,911	$76,890	**$5,311,001**
University of Houston	$6,916,094	$0	$3,950,898	$653,104	**$11,520,096**
University of North Texas	$492,843	$877,740	$875,097	$1,373,975	**$3,619,656**
Total	**$11,974,710**	**$35,007,384**	**$8,887,586**	**$4,199,920**	**$60,069,599**

Source: Texas Higher Education Coordinating Board

Table 2. Expenditures under Texas Comprehensive Research Fund (TCRF) FY 2017.

Institution	Salaries/ Wages for New or Reassigned FTEs	Salaries/ Wages for Existing FTEs	Operating Expenses	Capital Expenditures	Total
Angelo State University	$0	$13,967	$6,438	$0	**$20,405**
Lamar University	$4,000	$102,790	$100,615	$3,688	**$211,093**
Midwestern State University	$0	$0	$39,797	$12,339	**$52,136**
Prairie View A&M University	$22,792	$308,462	$125,103	$3,500	**$459,857**
Sam Houston State University	$0	$255,781	$0	$0	**$255,781**
Stephen F. Austin State University	$49,000	$58,287	$43,465	$165,659	**$316,412**
Sul Ross State University	$0	$72,336	$47,289	$0	**$119,625**
Tarleton State University	$0	$534,104	$0	$0	**$534,104**
Texas A&M International University	$0	$213,309	$0	$0	**$213,309**
Texas A&M University at Galveston	$0	$19,309	$201,973	$274,354	**$495,636**
Texas A&M University-Commerce	$0	$140,951	$5,265	$0	**$146,216**
Texas A&M University-Corpus Christi	$2,730	$730,806	$333,099	$43,065	**$1,109,701**
Texas A&M University-Kingsville	$0	$507,021	$782,326	$225,229	**$1,514,576**
Texas A&M University-San Antonio	$0	$0	$5,090	$0	**$5,090**
Texas A&M University-Texarkana	$0	$12,976	$0	$0	**$12,976**
Texas Southern	$0	$100,403	$2,018	$0	**$102,421**
Texas Woman's University	$59,763	$47,589	$48,752	$0	**$156,104**
The University of Texas at Tyler	$0	$53,156	$158,480	$0	**$211,636**
The University of Texas of the Permian Basin	$0	$5,008	$19,505	$511	**$25,024**
The University of Texas Rio Grande Valley	$282,227	$209,956	$385,533	$291,932	**$1,169,648**
University of Houston-Clear Lake	$12,669	$21,706	$1,571	$0	**$35,946**
University of Houston-Downtown	$0	$166,791	$0	$0	**$166,791**
University of Houston-Victoria	$0	$0	$1,316	$0	**$1,316**
University of North Texas-Dallas	$0	$0	$0	$2,439	**$2,439**
West Texas A&M University	$0	$187,810	$14,576	$0	**$202,386**
Total	**$433,181**	**$3,762,518**	**$2,322,211**	**$1,022,717**	**$7,540,627**

Source: Texas Higher Education Coordinating Board

Angelo State University

Entry: 1

Title: The Investigation of the Effects of Therapeutic Electrical Stimulation on People with Type 2 Diabetes

Description: Salary, materials, and supplies support for research on type 2 diabetes treatment methods.

Purpose/Intent: To determine the effects of a treatment of therapeutic electrical stimulation on blood glucose control and lipid profile in individuals with type 2 diabetes.

Benefit for the State or Institution: The project seeks to address the challenges in treating individuals with type 2 diabetes, which has skyrocketed in the region and the state over the past 20 years. This initial investment has allowed the researcher to assess preliminary findings and to submit a funding proposal to an external agency to scale up the pilot study.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$4,817
Operating Expenses	$6,438
Capital Expenditures	$0
Total	**$11,255**

Entry: 2

Title: Aging in Place in Assisted Living Facilities: Assessing Physical Changes and Predictors of Change

Description: Salary support for research on individuals in assisted living facilities.

Purpose/Intent: To examine the changes in impairments and activity limitations in residents of assisted living facilities.

Benefit for the State or Institution: As the regional and state populations age, it is essential for assisted living facilities to be able to assess risks for falls and related injuries and develop methods for preventing them. This study provides pilot data and suggestions for future study to address these challenges.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$5,207
Operating Expenses	$0
Capital Expenditures	$0
Total	**$5,207**

Entry: 3

Title: Sponsored Projects Office

Description: Support of ASU's Sponsored Projects Office.

Purpose/Intent: To provide partial funding to ASU's sponsored projects office, which is responsible for finding funding opportunities, submitting proposals on behalf of the University, and overseeing compliance with funder requirements.

Benefit for the State or Institution: Support of this office allows ASU to increase its submissions of grants and other sponsored projects to external funders to support research and related activities that ultimately benefit the University, region, and/or state.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$3,943
Operating Expenses	$0
Capital Expenditures	$0
Total	**$3,943**

Lamar University

Entry: 1

Title: CITI Training

Description: CITI Training.

Purpose/Intent: Allows faculty and students to complete training for RCR and IRB.

Benefit for the State or Institution: Training is required for students to work on grants/apply for IRB approval to conduct research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$3,150
Capital Expenditures	$0
Total	**$3,150**

Entry: 2

Title: American Association of State College University

Description: Grant training for faculty.

Purpose/Intent: Assist faculty in better preparing their proposals.

Benefit for the State or Institution: Faculty became familiar with NSF and NIH requirements before submitting proposals.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$9,740
Capital Expenditures	$0
Total	**$9,740**

Entry: 3

Title: InfoReady Corporation

Description: Software to manage internal grant submissions.

Purpose/Intent: Assist with management of internal grant submissions.

Benefit for the State or Institution: Streamlines process for internal Research Enhancement grant, faculty fellowship grant and limited submission proposals.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$8,000
Capital Expenditures	$0
Total	**$8,000**

Entry: 4

Title: Evisions grants management software

Description: Cayuse 424 and Cayuse IRB software.

Purpose/Intent: Assist with proposal and management of IRB applications.

Benefit for the State or Institution: Streamlines process (IRB) and streamlines proposal preparation.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$72,665
Capital Expenditures	$0
Total	**$72,665**

Entry: 5

Title: Matching funds for external grant to increase number of students in Speech and Hearing Sciences

Description: Salaries for Project Director as matching funds for grant.

Purpose/Intent: Increase the number of students in the field of Speech and Hearing Sciences.

Benefit for the State or Institution: Provides more people in the field to provide services and perform research for hearing impaired individuals.

Salaries/Wages for New or Reassigned FTEs	$4,000
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$4,000**

Entry: 6

Title: Pivot by ProQuest

Description: Pivot by ProQuest.

Purpose/Intent: Research funding search support.

Benefit for the State or Institution: Assist faculty in identifying potential funding for their research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$7,060
Capital Expenditures	$0
Total	**$7,060**

Entry: 7

Title: Salaries for Sponsored Programs

Description: Salaries for Sponsored Programs Office.

Purpose/Intent: Sponsored Programs office assist professors in finding and applying for external funding.

Benefit for the State or Institution: Enables University to seek external funding for research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$102,790
Operating Expenses	$0
Capital Expenditures	$0
Total	**$102,790**

Entry: 8

Title: YSI EXO1/Water Monitoring Solutions

Description: YSI EXO1/Water Monitoring Solutions.

Purpose/Intent: Water Monitoring System.

Benefit for the State or Institution: To enable faculty to garner federal and industrial support for their research based on preliminary results.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$
Capital Expenditures	$3,688
Total	**$3,688**

Midwestern State University

Entry: 1

Title: Turing 1: A High Performance Computing Cluster

Description: Create an expandable academic High Performance Computing Cluster, capable of providing a wide variety of HPC and Big-Data features that will be exploited and used towards the restructuring and enhancement of existing courses and the development of new ones.

Purpose/Intent: Build an academic cluster capable of solving computationally challenging problems while allowing undergraduate and graduate students the opportunity to acquire new and valuable skills by participating in the design, assembly and configuration process under the supervision of faculty members.

Benefit for the State or Institution: This academic cluster will create an expandable infrastructure capable of supporting intercollegiate collaboration for a variety of computational problems.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$
Capital Expenditures	$7,129
Total	**$7,129**

Entry: 2

Title: Time Course for Physiological Adaptations with Hypobaric Exposure: A Research/Pedagogical Project

Description: Assessment of the physiological rate change in resting and performance variables in collegiate cyclists during the competitive season and at altitude.

Purpose/Intent: Compare changes in specific physiological measures in competitive athletes at different altitudes. Provide a field-based research experience for undergraduate students.

Benefit for the State or Institution: The combined research and pedagogical aims of this project are directly aligned with the University's commitment to prepare students for their careers and advanced study. As the demand for exercise physiologists is expected to jump 11 percent over the next eight years, the field experience for students is invaluable in their professional development.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,401
Capital Expenditures	$0
Total	**$1,401**

Entry: 3

Title: Photographs into Tapestries: A Transformative Collaborative Project

Description: Transform a collection of non-objective photographs taken in Mexico that suggest landscapes, human figures, and mystical symbols into large-scale tapestries by working collaboratively with a team of artisans at the Taller de Afepado workshop in San Agustin Etla, Mexico.

Purpose/Intent: Engage in a collaborative project with artisans in a foreign country in a large studio to transform photographs into tapestries that stand alone as new artworks.

Benefit for the State or Institution: The value of working in a collaborative environment will be shared with students in the classroom and the results of the artistic collaboration will be used for class lectures and professional presentations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,602
Capital Expenditures	$0
Total	**$2,602**

Entry: 4

Title: Integrating Science, Technology, Engineering, and Mathematics (STEM) Using Project-based Learning and Growth Mindset Strategies 2.0

Description: Study the effect of integrating STEM, Project-Based Learning, and growth mindset on student's study skills, achievement, and the number of students who graduate high school with college and career readiness skills.

Purpose/Intent: Identify and characterize approaches to integrated STEM education, review evidence for the impact of integrated approaches on student achievement and science fluency and flexibility, and further advance the understanding of integrated STEM.

Benefit for the State or Institution: This project will help increase STEM literacy for all students, including those who do not pursue STEM-related careers or additional study in STEM disciplines. MSU undergraduate and graduate students will also be involved in this interdisciplinary research, which will use state-of-the-art technology.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$672
Capital Expenditures	$0
Total	**$672**

Entry: 5

Title: Fluorescence camera and mount

Description: Purchase of Lumenera fluorescent camera and equipment.

Purpose/Intent: Integrate with the fluorescence microscope to produced enhanced images of cells and other structures.

Benefit for the State or Institution: Fluorescence microscopy is an essential tool in biology because it captures attributes of tissue and cells that are not present in traditional optical microscopy. Having the ability to capture images from fluorescence microscopy using a camera that integrates with the microscope allows images to be used in presentations and the publication of scientific results.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$6,984
Capital Expenditures	$0
Total	**$6,984**

Entry: 6

Title: Poets, Painters, and Paper: Post-World War II American Avant-Garde Art

Description: Examination of the cultural, aesthetic, and philosophical interstices of visual arts and poetry in the US during the 1950s through the 1970s.

Purpose/Intent: Promote the discussion and interpretation of post-World War II visual artistry and poetry via museum exhibition, publication, and presentation.

Benefit for the State or Institution: As the sole university in the State of Texas to become a member of the Council of Public Liberal Arts Colleges (COPLAC), the exhibit is central to the University's culture, and having an onsite public museum draws external audiences, effectively broadening its scope.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$54
Capital Expenditures	$0
Total	**$54**

Entry: 7

Title: New Mathematical Model for Supersonic Panel Flutter

Description: Propose a new mathematical model to simulate, and consequently illuminate, the flutter of aircraft curved panels (e.g. aircraft wings) during supersonic flight.

Purpose/Intent: Provide aerospace engineers with a design tool that determines the flutter-free envelope of an aircraft (i.e. the range of safe flying conditions with respect to flutter) and reduce the need for wind tunnel and real-flight testing for flutter.

Benefit for the State or Institution: This project initiates undergraduate students into the aerospace engineering field and engages students alongside faculty in research activities.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,109
Capital Expenditures	$0
Total	**$2,109**

Entry: 8

Title: Ultra-low freezer with -86°C capacity

Description: Support purchase of ThermoFisher Scientific -86°C upright ultra-low temperature freezer.

Purpose/Intent: Store DNA, microorganisms and tissue samples at very low temperatures to preserve specimen stability and integrity.

Benefit for the State or Institution: At the time of purchase the science labs shared only one ultra-low freezer that, if a power loss was experienced, was not able to hold temperature and resulted in potential loss of specimens and years of research. Having two freezers ensures if one loses power irreplaceable samples used in research by faculty and graduate students can be moved to a backup.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,790
Capital Expenditures	$5,210
Total	**$8,000**

Entry: 9

Title: Office of Sponsored Programs and Research

Description: Purchase of SPIN Plus subscription.

Purpose/Intent: Support for faculty research.

Benefit for the State or Institution: Assists with identification of open grants that will fit the needs of our institution.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,370
Capital Expenditures	$0
Total	**$1,370**

Entry: 10

Title: High performance liquid chromatography (HPLC) instrument and accessories

Description: Support purchase of NCG Quest 10 Plus Chromatography System.

Purpose/Intent: Support updates of laboratory equipment for a new faculty member in biochemistry.

Benefit for the State or Institution: The new faculty member's research expands the range of questions being explored in the College. His work in protein biochemistry requires protein purification that can be done with a more modern HPLC and updated columns.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$14,975
Capital Expenditures	$0
Total	**$14,975**

Entry: 11

Title: Determining the Physiological Effects of Hypoxia on Developing Leopard Gecko Embryos: Preliminary Data for an Application for Extramural Funding through the National Science Foundation

Description: Testing the Environmental Hypoxia Hypothesis.

Purpose/Intent: To advance knowledge of how hypoxia affects the development of embryos and to secure external funding for research that could shed light on the evolutionary origins of live birth.

Benefit for the State or Institution: The findings of this research will be integrated into a National Science Foundation grant application. This research also increases undergraduate involvement in research activities, enhances student opportunities to present at conferences and publish articles, and increases the research capacity of the University.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$6,341
Capital Expenditures	$0
Total	**$6,341**

Entry: 12

Title: Articulate 360

Description: Purchase of Articulate 360 software.

Purpose/Intent: Virtual branching scenario research.

Benefit for the State or Institution: The software will be used for a research project that involves designing and administering virtual branching scenarios online for radiology students. It can also be used by faculty to build interactive online course materials.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$499
Capital Expenditures	$0
Total	**$499**

Prairie View A&M University

Entry: 1
Title: Next Generation Secured and Trustworthy Cyberspace Solutions for Instant Monitoring, Detection, Mitigation, Containment

Description: Several years ago, no one would have believed that one of the biggest threats in today's society would be cybercrime, but the frequency and universal nature of cyberattacks are proving otherwise. In today's increasingly networked, distributed, and asynchronous world, cybersecurity involves hardware, software, networks, data, people, and integration with the physical world. Study's had indicated that society's overwhelming reliance on this complex cyberspace has, exposed its fragility and vulnerabilities: corporations, agencies, national infrastructure and individuals have been victims of cyber-attacks.

Purpose/Intent: By achieving a truly secure cyberspace, the study will address both challenging on scientific and engineering concerns involving many components of a system, and vulnerabilities that arise from anomalies in human behavioral patterns and choices.

Benefit for the State or Institution: The broader impacts of this study will provide a tool that is empirical and analytic in nature. The PI will analyze data collected to support this argument. The goal is to use external grant funding opportunity to attract more funding for the project.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$8,000
Operating Expenses	$4,717
Capital Expenditures	$0
Total	**$12,717**

Entry: 2

Title: Office of Sponsored Programs

Description: This appropriation is to cover salaries and all operational expenses for this office.

Purpose/Intent: The purpose of the office is to support and stimulate all aspects of research and other innovative activities at Prairie View A&M University.

Benefit for the State or Institution: This office offers research administrative support in seeking and securing funding and ensuring Prairie View is compliant with sponsor guidelines.

Salaries/Wages for New or Reassigned FTEs	$22,792
Salaries/Wages for Existing FTEs	$155,851
Operating Expenses	$847
Capital Expenditures	$0
Total	**$179,490**

Entry: 3

Title: Post Occupancy Evaluation and Comparison of Pedestrian-Friendly Attributes and Usability of Office-District Plazas in Downtown Houston and Dallas

Description: The research will examine and identify via place-maps, open spaces in downtown Houston and Dallas that remain underused but have the potential of serving as viable pedestrian-friendly spaces. The research will focus on the built environment and open spaces bounded by US-59, US-45, and Buffalo Bayou in downtown Houston and US-75, US-30, US-35E, and US-366 in downtown Dallas.

Purpose/Intent: The purpose of the research is to produce a comprehensive urban place-map documenting typologies of the built environment versus open space in downtown Houston and Dallas.

Benefit for the State or Institution: Knowledge gained through the study would contribute to the growing literature on design guidelines- a systematic attempt to compile what has emerged from the burgeoning field of environment and behavioral research and to present the research in a form that is understandable and usable by the clients, users, designers, and managers of designed open space in urban environments. The study is expected to contribute to faculty expertise in bringing the School of Architecture at Prairie View A&M University to the forefront of research and development.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$238
Operating Expenses	$6,414
Capital Expenditures	$0
Total	**$6,652**

Entry: 4

Title: STEP into STEM

Description: STEP into STEM is a project aimed to nurture the inquiry of third, fourth and fifth grade participants in the areas of Science, Technology, Engineering and Mathematics. The inquiry will lead to the further enhancement of the academic institution stimulation and cognitive development of the students while engaging in multiple activities.

Purpose/Intent: This project focused on satisfying three outcomes: Improving the interest in the STEM disciplines for students in these grades as measured by a survey, improving the mathematics and science skills of the identified students which will be measured by a skill based instrument for grades 3, 4 and 5, and utilizing Chess to improve the cognitive learning for student in these grades measured by a battery of cognitive assessments.

Benefit for the State or Institution: The work of this project is significant because of the shortage of successful students in the STEM pipeline in the United States. Providing an incubator of STEM students will help to improve this shortage.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$6,958
Capital Expenditures	$0
Total	**$6,958**

Entry: 5

Title: A feasibility study for preservation and rehabilitation of historic buildings and places for Texas Freedom Settlement Communities during the mid-19th and early 20th centuries focusing on the Shankleville Community in Newton County, Texas

Description: This research will evaluate the built-environment of settlement communities in Texas originally founded by emancipated slaves during the mid-19th and early 20th centuries. This study will evaluate historic buildings and places for their current built conditions and historic significance for future preservation and rehabilitation works. The student will include capturing oral histories related to the historic building and places and 3D laser scanning of the buildings and places for documentation of existing physical conditions. The study will provide guidelines for national historic marker registration requirements based on the National Park Service registration guidelines. The Shankleville Community in Newton County, Texas will be examined as an example of Texas Freedom descendant communities.

Purpose/Intent: This study will form the basis for reconstruction, building rehabilitation and redevelopment of historic districts or national register historic markers or to revitalize and develop the community.

Benefit for the State or Institution: By saving our history, our heritage, and our stories, generation to generation, people will learn from the past and honor the full diversity and pageantry of the evolving American story. An educational program can be developed for our students to learn and experience proper methods of documentation and preservation of the heritage of Texas' African American historic towns, settlements, and the planners and preservationists that made them possible.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$18,730
Operating Expenses	$8,914
Capital Expenditures	$0
Total	**$27,644**

Entry: 6

Title: Another Improvement of the Up-and-Down Design for Phase I Clinical Trials

Description: In oncology, Phase I Clinical Trials must estimate the safest and most effective dose level that has an ideally low probability of toxic reaction. Thus, there is a new emphasis on utilizing sequential designs in drug trials where patients are assigned dosage levels one at a time and take into account the subjects current health and drug response.

Purpose/Intent: To advance the Up-and-Down design by introducing and test new parametric distributions for the response function and to find an improved method to elucidate the appropriate dose levels for patients.

Benefit for the State or Institution: The PI can pursue funding from the NIH Planning Grant Program (R34) and this will open doors to future collaborations with the Texas Medical Center.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$8,000
Operating Expenses	$3,309
Capital Expenditures	$3,500
Total	**$14,809**

Entry: 7

Title: Stabilization of Magnetized Nanoparticles in Aqueous Solutions

Description: In an effort to increase drug solubility and bioavailability, several approaches have been considered such as the micronization process, cosolvents or enhance usage, development of fatty solutions, surfactant dispersion method, salt formation, and vesicular systems like liposomes. Magnetized drug delivery provides a method of treatment where a magnetized field will have the capability to target the area or organ where the treatment is required.

Purpose/Intent: To connect the active pharmaceutical ingredient to a magnetized particle in an effort to increase the efficiency of the compound and to engineer particles capable of delivering drugs to a targeted location.

Benefit for the State or Institution: Research findings will be used to apply for federal grants through the NSF under the CBET division and the proposal will be submitted to the Participle and Multiphase Processes (PMP) program that focuses on particulate formation and solid/liquid systems.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$3,375
Operating Expenses	$8,343
Capital Expenditures	$0
Total	**$11,718**

Entry: 8

Title: College Preparation Among African American Students: A Qualitative Case Study of an Inner City College Readiness Program

Description: Although college enrollment rates of African American students have improved over the last decades, African American students continue to be more likely to face barriers when entering and completing college. In general, minority high school students have less access to qualified teachers, challenging curriculum opportunities, and career counseling and guidance. As a result, support structures, such as college readiness programs, have become increasingly important for closing the educational gap for minority students.

Purpose/Intent: To enhance understanding of how African American students and their families access college readiness programs and to illuminate the actual experiences/voices of inner city African American students who participate in the programs.

Benefit for the State or Institution: Research findings from this study have the potential to assist educators, counselors, administrators, and university leaders in improving college and career readiness programs among underrepresented students.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$7,000
Operating Expenses	$1,280
Capital Expenditures	$0
Total	**$8,280**

Entry: 9

Title: Hopes for Healing: How Trauma-Informed Care Training Changes the Texas Juvenile Justice System?

Description: A national survey found that 62% of justice-involved youth reported trauma exposure as early as age five. More than 30% of just-involved youth reported multiple exposures to trauma. Males tend to report higher rates of witnessing violence, whereas females report higher rates of interpersonal victimization. Traumatized youth have a greater likelihood of juvenile delinquency, antisocial behavior, mental health problems, academic problems, substance abuse/alcohol use, and involvement with child welfare system. Moreover, many features of juvenile courts and detention processes can retraumatize youth.

Purpose/Intent: To evaluate the extent to which the legislation has been implemented, including the level of training received, officers' knowledge about the purpose of the state-mandated training, and suggestions for improving the training; and to assess how juvenile justice agencies' policies foster physically and emotionally safe environments for clients and staff.

Benefit for the State or Institution: The proposed study is intended to expand our knowledge and deepen our understanding of trauma-informed care and will contribute to the fields of child psychology, juvenile justice, and social work, each of which deals with traumatized children.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$13,999
Operating Expenses	$5,906
Capital Expenditures	$0
Total	**$19,905**

Entry: 10

Title: Gender Differences in Offending: An Examination of the Male-Female Disparity in African American Offending

Description: African American adults and juveniles account for a considerable portion of delinquency and violent offending in the US. Research suggest that African American males, who make up six percent of the population, account for about half of the robbery and homicide arrests each year (Unnever and Gabbidon, 2011). Although there is consensus that both gender and racial differences exist in rates of offending, there is less agreement on the reasons for these differences.

Purpose/Intent: To examine the impact that differences in perceptions of and experiences with criminal justice injustices, racial discrimination and negative stereotypes, as well as race socialization practices have on African American offending and to identify gender differences in African Americans' perceptions of and experiences with criminal justice injustices, racial discrimination, and racial socialization. The final aim of this research is to identify protective factors and practices that insulate some African Americans from involvement in crime and delinquency.

Benefit for the State or Institution: With regard to society as a whole, the consideration of race and gender as more than demographic variables may be beneficial in that it can initiate a change in the way society views and discusses crime and delinquency, particularly the manner in which young African American males are portrayed.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$14,000
Operating Expenses	$3,494
Capital Expenditures	$0
Total	**$17,494**

Entry: 11

Title: Computational Analysis of Biological Data Sets to Create a Disease Progression Model and Understanding of Environmental Microbiome

Description: This project involves the use of soil samples from a variety of sties on campus to determine the microorganisms based on sequence analysis that make up the Microbiome at Prairie View A&M University. This project is multidisciplinary in that students will be engaged in collecting soil samples, purifying the DNA from the samples, sequence data analysis and determining the diverse community of microorganisms that exist on the campus.

Purpose/Intent: To identify potential microbiome sequences that will show relationships between the environment and human life plus continue the development of an eye mapping system that will aid in the use of new therapies in ocular infusion.

Benefit for the State or Institution: This project will create a system that can serve as a prediction model that can monitor the progression of damage in ocular infection and understand the relationship of the microbiome and the environment. This project will allow undergraduate students to gain insight into the bioinformatics, host pathogen interactions and computer applications.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$3,450
Operating Expenses	$16,499
Capital Expenditures	$0
Total	**$19,949**

Entry: 12

Title: Culturally Responsive Practices of Successful Mathematics Teachers

Description: The vision of the Culturally Responsive Practices of Successful Mathematics Teachers project is to document the successful strategies and dispositions of high school mathematics teachers in schools with high underrepresented minority populations.

Purpose/Intent: To identify successful mathematics instructors in high schools with significant underrepresented minority populations and learn their successful strategies.

Benefit for the State or Institution: It is critical that we capture what is needed to successfully teach mathematics to underrepresented minorities in Texas, given that today more students in Texas public schools report themselves as minorities that non-minorities. Prairie View A&M University prides itself as the institution in Texas that is uniquely positioned to meet the needs of these students and their teachers.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,396
Capital Expenditures	$0
Total	**$2,396**

Entry: 13

Title: A flexible point-of-care device for measuring E.coli in drinking water

Description: A point of care biosensor will be demonstrated as an effective tool for measuring pathogenic bacteria (Escherichia coli O157:H7) in water.

Purpose/Intent: To improve technology used to monitor the level of contamination that is present in drinking water and source water supplies.

Benefit for the State or Institution: This research will contribute to the global fight to improve access to safe drinkable water, and the development of POC water quality measurement devices that will allow individuals, municipalities and governments to gain real time information regarding the safety of local water.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$4,800
Operating Expenses	$7,111
Capital Expenditures	$0
Total	**$11,911**

Entry: 14

Title: Air Quality Measurement of Poultry Farms in Texas

Description: Studies have shown particulate matter and the contaminants found in particulates impact the air quality significantly. Researchers have identified these pollutants as bio-aerosols, ammonia, carbon monoxide, nitrogen dioxide, sulfur dioxide, volatile organic compounds, particulate matter, ozone and etc.

Purpose/Intent: To investigate the air quality in and around poultry farms in Texas.

Benefit for the State or Institution: With this study, we can determine if ozone and VOC levels pose a threat to poultry and poultry farm workers. This research will bring awareness to the scientific community which will launch research avenues to help reduce the harmful emissions through control technologies such as air filtration, bioreactors, and cyclone systems. Research from the study will also educate poultry farmers and workers about the air quality inside poultry farms and the emissions that the farms emit into the surrounding area.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$14,784
Operating Expenses	$5,195
Capital Expenditures	$0
Total	**$19,979**

Entry: 15

Title: Innovative Biology Across Disciplines

Description: The project encompasses multiple facets of intellectual merit with two specific aims. Both aims will answer the great paucity of information pertaining to the biology of aging.

Purpose/Intent: To investigate the hypothesis that primary fibroblasts from shorter-lived animals demonstrate protein levels and polarization differently that those from longer-lived animals and investigate the hypothesis that mitochondrial efficiency and cellular respiration rates in longer-lived animals differ significantly from those of shorter-lived animals.

Benefit for the State or Institution: There will be more underrepresented minorities (URM) in STEM disciplines due to early exposure to research involvement.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$8,000
Operating Expenses	$3,290
Capital Expenditures	$0
Total	**$11,290**

Entry: 16

Title: Disaster Management: Improving Decision Making through Innovative Social Media Visual Analytics

Description: With the significant advance in the development of new information technology of recent years, the acquisition of raw data is no longer the driving problem in disaster management. Rather, a major challenge is the ability to identify methods and models which can turn the data into reliable and provable knowledge. Effective responses to humanitarian crises such as the recent (2016) flooding in Houston, TX and in Baton Rouge, LA or the 2016 Orlando, FL nightclub shooting requires accurate and timely information as well as rapid and effective coordination and collaboration among disaster responders. Social media is rapidly changing the way emergency information is created, distributed, and shared in time of natural or man-made crises.

Purpose/Intent: To investigate the ways in which disaster related data generated through Twitter can be transformed to be used for improved situational awareness and effective collaborative decision making by disaster responders and contribute to establishing best practices on the use of social media visual analytics in disaster management.

Benefit for the State or Institution: The study builds upon the PI's previous work, will contribute to establish best practice of the use of social media analytics for disaster management humanitarian organizations, and contribute to the development and use of socio-technical systems theory to analyze the integration of technical and social systems.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$8,000
Operating Expenses	$0
Capital Expenditures	$0
Total	**$8,000**

Entry: 17

Title: Multi-scale Modeling of Drugs Effects for Precision Medicine: A Joint Stochastic Simulation and Cell-line Experimentation Framework

Description: Molecularly targeted agents (MTAs) are increasingly used for the treatment of cancer in recent years to improve the efficacy and selectivity by interfering with specific targeted molecules needed for carcinogenesis and tumor growth. While the lack of specificity of the traditional cytotoxic drugs allowed a relatively straightforward approach in preclinical and clinical study, developing a paradigm to better analyze the efficacy of MTAs is substantially more complex.

Purpose/Intent: To link PK and PD with experimental design in order to establish and evaluate dose-concentration-response relationships and subsequently describe and predict the effect-time courses resulting from a drug dose, while taking into account the underlying biological regulatory networks.

Benefit for the State or Institution: The interdisciplinary nature of this research promises to foster cross-fertilization of quantitative research with biomedical research and would advance research in effective and affordable treatment of diseases like cancer.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$8,000
Operating Expenses	$10,290
Capital Expenditures	$0
Total	**$18,290**

Entry: 18

Title: Engaging Students and Teachers by Exploring Biology with Innovative Technology (ESTEBIT)

Description: Digital Natives have an expectation and need for technology use or development in their formal and informal learning. Technology can be used as a tool to support student learning and teacher dissemination of scientific concepts. The development, implementation and testing of technology rich inquiry based learning environments can engage and motivate students interested in STEM fields.

Purpose/Intent: To observe best practices of technology rich learning environments of science teacher development camp and 6-12th grade summer enrichment camp.

Benefit for the State or Institution: To improve STEM education, build collaboration between life science and education and expand the participation of underrepresented groups.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$8,581
Operating Expenses	$8,225
Capital Expenditures	$0
Total	**$16,806**

Entry: 19

Title: Wilhelmina Delco Remodel PV-576

Description: To remodel rooms 163, 164A & 164B to accommodate research compliance staff members.

Purpose/Intent: To provide an adequate work space for the research compliance component of the Office of Research, Innovation and Sponsored Programs.

Benefit for the State or Institution: Research compliance matters will be handled in a timely and accurate manner with the renovation of these office spaces.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$10
Capital Expenditures	$0
Total	**$10**

Entry: 20

Title: Elliptic Curve Cryptography (ECC) and Geometric Cryptography (GC) and Applications

Description: The focal area of ECC will investigate the Group Structure of Elliptic Curves over Finite Fields, the Elliptic Curve Discrete Logarithm Problem, and their applications in Cryptography.

Purpose/Intent: To provide participants the opportunity to investigate the elliptic curves over finite fields and their applications in Cryptography.

Benefit for the State or Institution: This project is an attempt to add other useful results that are applicable in the communities and industry security. It should be another resource for other researchers to follow and expand. The intention is to publish the results in a professional journal such as SIAM or Inform. The impact to the profession will be broadened by such dissemination.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$3,999
Operating Expenses	$6,335
Capital Expenditures	$0
Total	**$10,334**

Entry: 21

Title: CRI Smart Grid Austin Greaux PV-532

Description: Renovation of offices and labs in the Austin Greaux building.

Purpose/Intent: To renovate space for staff members to perform research in regards to the CRI Smart Grid Initiative.

Benefit for the State or Institution: The state and University will benefit from this project as it will help with smart grid matters.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$5,208
Capital Expenditures	$0
Total	**$5,208**

Entry: 22

Title: Novel Quantum Hall Phases with Anisotropic Interaction

Description: A series of experiments on GaAs-based two-dimensional electronic systems in the extreme quantum limit have shown surprisingly strong magneto-transport anisotropy at certain values of the magnetic field applied perpendicular to the sample. This proposal interprets the onset of observed anisotropy as signature of a phase transition of electrons from a conventional (isotropic) liquid state to a novel anisotropic nematic liquid crystalline state with broken rotational symmetry.

Purpose/Intent: To show that a weak anisotropy that originates from the GaAs substrate will favor a phase with nematic order in quantum regimes not anticipated before.

Benefit for the State or Institution: The project focuses on the theory and modeling of various competing and/or co-existing phases governed by anisotropic interaction features, contributes directly to fundamental research in the field.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$11,667
Operating Expenses	$3,910
Capital Expenditures	$0
Total	**$15,577**

Entry: 23

Title: Millennial, Gifted and (Pell-Grant) Poor: Implications for African American and Hispanic students enrolled in HBCUs and HSIs

Description: The study population for this project will include African American millennial students enrolled in HBCU STEM programs who are academically gifted/high-achieving and qualify for federal Pell-grant assistance. The main constructs that frame this study include 'African Americans' 'millennial' and 'low-income' college student populations.

Purpose/Intent: To study minority students who are gifted, poor (defined as eligible for a Pell Grant), and enrolled in STEM disciplines, this project will identify critical academic and social factors found to contribute to the successful admission, matriculation and transition of this cohort.

Benefit for the State or Institution: A critical study of this nature would provide seminal data on the unique experiences of African American and Hispanic students in the various STEM disciplines- addressing the severe paucity of literature in this area.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$0**

Entry: 24

Title: Examining the role of social support in the academic success of Black student athletes at HBCUs

Description: Extant research examining the academic engagement of Black college athletes at historically/traditionally white institutions of higher education suggest a more robust and holistic approach towards the advisement and support. In addition, research suggests that HBCUs of higher education should be references as models of academic engagement for Black students to include Black student athletes. This study will investigate the role of social support on the academic success and matriculation of BSA at HBCUs.

Purpose/Intent: To understand and identify the academic challenges of student-athletes, understand perceived and received social support efforts within and outside of HBCU athletics, identify organizational challenges to provide social support to student-athletes, and develop a best-practices model to promote academic advisement of student-athletes between athletic and academic units.

Benefit for the State or Institution: This research aims to identify information and cultural nuances that can aid in the development of an HBCU athletic academic model.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,295
Capital Expenditures	$0
Total	**$1,295**

Entry: 25

Title: Blue Energy: Pilot and Plant Implementation

Description: The energy obtained by salinity-gradients (Blue Energy) is a promising renewable energy source for the future. The mixture of high concentration saline solution with fresh water to produce a brackish solution dissipates more that 2.2 MJ of free energy per m3 of fresh water treated. Proofs of concept have been successful and now a clear path to realistic evaluation of the feasibility of the process is needed.

Purpose/Intent: To write a proposal to DOE to design a portable small pilot plant set-up that can operate for long periods of time under field condition and include the selection of a suitable place inside the state to operate the built equipment in order to access feasibility of industrial operation.

Benefit for the State or Institution: Understanding the influence of social support on the academic success of student-athletes at HBCUs can facilitate restoration in the narrative of the historical and contemporary cultural and academic value within these institutions. As a result of this research, parties/stakeholders can ensure student-athletes engage in educationally purposeful activities inside and outside of athletic environments.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$7,988
Operating Expenses	$5,157
Capital Expenditures	$0
Total	**$13,145**

Sam Houston State University

Entry: 1

Title: Office of Research & Sponsored Program Operations

Description: This appropriation is to cover operational expenses of this office.

Purpose/Intent: The purpose of the office is to promote all aspects of research and other creative endeavors at Sam Houston State University.

Benefit for the State or Institution: This office promotes research administration by providing administrative support in seeking and securing funding and ensuring Sam Houston State University is compliant with sponsor guidelines.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$255,781
Operating Expenses	$0
Capital Expenditures	$0
Total	**$255,781**

Stephen F. Austin State University

Entry: 1

Title: Center for Regional Heritage Research Support

Description: Funds for salary and research support.

Purpose/Intent: Funds were utilized to provide salary support for the Center's operations manager and students who worked on a variety of research projects, and to purchase hardware and software for research needs.

Benefit for the State or Institution: These research activities expand the research capacity of the institution, provide data sets used by faculty and students on research in a variety of fields, and enhance the reputation of SFA worldwide as an institution of higher learning.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$16,392
Operating Expenses	$3,554
Capital Expenditures	$0
Total	**$19,945**

Entry: 2

Title: Biology Department Electron Microscope

Description: Partial funds to purchase new equipment for Biology labs.

Purpose/Intent: Provided partial funds for purchase of transmission electron microscope, digital camera, and X-ray microanalysis system for the Department of Biology. This equipment is essential not only for the research projects currently underway in multiple labs within the department, but also for students in other departments within the College of Sciences & Mathematics, such as Geology and Physics.

Benefit for the State or Institution: This equipment acquisition will increase research productivity within the department. For example, the new digital camera will lessen the time to prepare images and reduce supply costs plus drastically increase the quality of images used for presentations at scientific conferences and in peer-reviewed publications. These outputs will increase the visibility of SFA which also impacts the recruitment and retention of students.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$164,437
Total	**$164,437**

Entry: 3

Title: Faculty/GRA Collaborative Research

Description: Funds for GRA salary and research for selected departments.

Purpose/Intent: Provided salary support for 4 GRAs and research supplies in Geology and Biology departments.

Benefit for the State or Institution: Provide opportunities for faculty-student collaborative research projects to build research capacity, increase SFA's competitiveness for external funds, and increase the number of well-prepared master's degree graduates with a strong background in research.

Salaries/Wages for New or Reassigned FTEs	$49,000
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$29,011
Capital Expenditures	$0
Total	**$78,011**

Entry: 4

Title: Lanana Creek Water Quality Study

Description: Partial funds to purchase new multiparameter pH/ISE/EC/DO/Turbidity meter.

Purpose/Intent: The immediate use of the equipment is for an ongoing water quality study of Lanana Creek and will continue to be used for research projects in the future.

Benefit for the State or Institution: This project is important as it will determine a baseline of targeted species of metals and anions in different water bodies in East Texas. This research establishes a "snapshot" of the water body that future analysis can be compared for events affecting water quality. This research will give valuable information to East Texas and give recognition to SFA through publications.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$1,222
Total	**$1,222**

Entry: 5

Title: ORSP Research Development

Description: Provided funding for a staff position and software to support faculty research activities.

Purpose/Intent: The staff position and software allow ORSP to assist research centers and faculty in identifying and applying for external grant opportunities, and developing sustainability plans. In addition, the staff person provides training to faculty on writing research proposals.

Benefit for the State or Institution: These funds enable SFA faculty and research centers to gain recognition by finding and applying for a greater number of research grants which contributes to the research capacity and recognition of the University.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$41,895
Operating Expenses	$10,900
Capital Expenditures	$0
Total	**$52,795**

Sul Ross State University

Entry: 1

Title: Springs in Big Bend

Description: Inventory and assess springs in Big Bend.

Purpose/Intent: Inventory and assessment of springs in the Big Bend Ranch State Park using site specific protocols.

Benefit for the State or Institution: Provides research opportunities to faculty and students.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$3,290
Capital Expenditures	$0
Total	**$3,290**

Entry: 2

Title: Center for Big Bend Studies

Description: The Center supports and promotes archaeological and historical activities in the Trans-Pecos and Big Bend Region of Texas and northern Mexico. It provides educational opportunities for university students, the public, and outside researchers.

Purpose/Intent: To promote the recovery, protection, and sharing of the region's rich cultural legacy.

Benefit for the State or Institution: Scientific investigations into the cultural heritage of the region lead to a better understanding of Texas history and increased protection for historical sites. Research opportunities provided to students help to train the scientists of tomorrow.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$15,015
Operating Expenses	$0
Capital Expenditures	$0
Total	**$15,015**

Entry: 3

Title: Archives of the Big Bend

Description: Provide research opportunities for Sul Ross State University (SRSU) faculty and students.

Purpose/Intent: The Archives of the Big Bend functions as the repository for primary materials documenting a diverse history and culture and supports the academic mission of the University as a department of the Library.

Benefit for the State or Institution: In addition to serving as teaching facilities for SRSU students. They assist researchers in determining which materials are best suited for various restoration projects.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$21,157
Operating Expenses	$0
Capital Expenditures	$0
Total	**$21,157**

Entry: 4

Title: Mule Deer

Description: Mule Deer Movements in an urban rural landscape.

Purpose/Intent: Evaluate the movement of Mule Deer within an Urban-Rural Landscape Matrix in Alpine, Texas.

Benefit for the State or Institution: Provides research opportunities to faculty and students. During the winter months, Alpine sees an influx of mule deer. These mule deer use the rural/urban interface during the rut and during winter. We would like to see what areas of town they are utilizing and where they disperse to. This is valuable to determine how large of an area mule deer are being drawn from, and habitats that are being selected for travel corridors.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$4,300
Capital Expenditures	$0
Total	**$4,300**

Entry: 5

Title: Protozoan Parasites

Description: Synthesis of Novel Nonsteroidal molecules.

Purpose/Intent: Study the synthesis of novel nonsteroidal small molecules as potential inhibitors of protozoan parasites.

Benefit for the State or Institution: Provides research opportunities to faculty and students.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$4,500
Capital Expenditures	$0
Total	**$4,500**

Entry: 6

Title: Cretaceous Units

Description: Cretaceous Units of Big Bend Ranch State Park, Texas.

Purpose/Intent: Study the Cretaceous Units of the Big Bend Ranch State Park, Texas.

Benefit for the State or Institution: Provides research opportunities to faculty and students.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$4,000
Capital Expenditures	$0
Total	**$4,000**

Entry: 7

Title: Desert Bighorn Sheep

Description: Auodad and Desert Bighorn Sheep interactions.

Purpose/Intent: Study the interactions of Auodad and Desert Bighorn Sheep in the Chihuahuan Desert Grasslands in Texas.

Benefit for the State or Institution: Provides research opportunities to faculty and students. Many populations of bighorn sheep in the desert South West are at risk from competition from aoudad. Sul Ross State University (SRSU) is one of the few institutions perfectly positioned to study these species interactions.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$4,500
Capital Expenditures	$0
Total	**$4,500**

Entry: 8

Title: Galactic Nuclei

Description: Host Galaxy Stellar Spectra.

Purpose/Intent: Obtain Host Galaxy Stellar Spectra of Active Galactic Nuclei.

Benefit for the State or Institution: Provides research opportunities to faculty and students. This topic in astrophysics falls under the Cosmic Origins Programs of NASA. The proposed study is directly in line with program goals.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$4,300
Capital Expenditures	$0
Total	**$4,300**

Entry: 9

Title: Saltcedar

Description: Biological Control of Saltcedar along the Rio Grande in West Texas.

Purpose/Intent: Monitoring of Diorhabda sublineata and Coniatus splendidulus on Saltcedar and Athel.

Benefit for the State or Institution: Provides research opportunities to faculty and students. Due to the international interest in athel survival, work along the river is needed to assess activity that will have long term effects on trees and determine if additional action is needed.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$4,000
Capital Expenditures	$0
Total	**$4,000**

Entry: 10

Title: Gray Fox

Description: Ecology of Gray Fox (Urocyon cinereoargenteus).

Purpose/Intent: Study the ecology of the gray fox in an Urban landscape in Trans Pecos, Texas.

Benefit for the State or Institution: Provides research opportunities to faculty and students. This study will allow us to gather important information regarding the gray fox that dwell in Alpine, Texas. The information is important for managers, as well as the public to understand how to manager and cohabitate with native wildlife.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$4,500
Capital Expenditures	$0
Total	**$4,500**

Entry: 11

Title: Rio Grande Research Center at Sul Ross State University

Description: The Center conducts scientific studies of water resources in the trans-Pecos region and educates the public on water conservation.

Purpose/Intent: The Center seeks to create a basin-wide perspective of water resources within the binational Rio Grande watershed and fostering stakeholder collaboration for the sustainable use of those resources.

Benefit for the State or Institution: A better understanding of the water resources in the area will lead to better management of those resources now and in the future. Research opportunities provided to students help to train the scientists of tomorrow.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$36,164
Operating Expenses	$0
Capital Expenditures	$0
Total	**$36,164**

Entry: 12

Title: Mule Deer

Description: Mule Deer Movements in the Texas Panhandle.

Purpose/Intent: Study the influence of Agricultural Production on Mule Deer Movement, behavior and survivorship in the Texas Panhandle.

Benefit for the State or Institution: Provides research opportunities to faculty and students. Mule deer are a public resource of the state. Understanding movements and other ecological factors are essential to ensure their conservation and management.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$4,000
Capital Expenditures	$0
Total	**$4,000**

Entry: 13

Title: America Without Tears

Description: America Without Tears: Literature and injustice.

Purpose/Intent: Develop the book America Without Tears.

Benefit for the State or Institution: Provides research opportunities to faculty and students.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$3,000
Capital Expenditures	$0
Total	**$3,000**

Entry: 14

Title: Reproductive cycles

Description: Trans Pecos lizards and snakes.

Purpose/Intent: Study the reproductive cycles of lizards and snakes in the Trans Pecos area.

Benefit for the State or Institution: Provides research opportunities to faculty and students.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$3,899
Capital Expenditures	$0
Total	**$3,899**

Entry: 15

Title: Vee Maps

Description: Virtual Vee Maps.

Purpose/Intent: Use Virtual Vee Maps to assess instruction in a soils laboratory.

Benefit for the State or Institution: Provides research opportunities to faculty and students.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$3,000
Capital Expenditures	$0
Total	**$3,000**

Tarleton State University

Entry: 1

Title: Tarleton State University

Description: Instructional Grants and Contracts.

Purpose/Intent: Instructional Grants and Contracts provides operation funding for the existing office of sponsored projects. This office supports external grant development campus-wide and assists all University departments in seeking sources for grants, writing grant proposals and providing other pre-award and post-award support.

Benefit for the State or Institution: Providing funding to the University office is instrumental in obtaining external grants and grant funding.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$22,349
Operating Expenses	$0
Capital Expenditures	$0
Total	**$22,349**

Entry: 2

Title: Tarleton State University

Description: Texas Institute of Applied Environmental Research.

Purpose/Intent: The office of TIAER is a multidisciplinary research institute authorized by the Texas Legislature that is tasked with conducting applied research on environmental issues, provide national leadership and policy development.

Benefit for the State or Institution: The funds allocated by the state to TIAER through the University is an investment in research that pays dividends on a local, state, and national basis, while providing essential solutions to environmental problems facing the world. By being a recognized national leader in environmental research, the state's investment provides a basic foundation for agricultural scientists, mathematical modelers, communication specialists, water quality scientists, graphic artists, computer scientists, water quality monitoring specialists and an accounting and audit team.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$168,532
Operating Expenses	$0
Capital Expenditures	$0
Total	**$168,532**

Entry: 3

Title: Tarleton State University

Description: Organized Research Program.

Purpose/Intent: The Organized Research Program provides financial support for the individual research projects of at least 8 faculty members across the University's colleges and academic disciplines.

Benefit for the State or Institution: Provides direct funding to the faculty for the university research mission.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$343,223
Operating Expenses	$0
Capital Expenditures	$0
Total	**$343,223**

Texas A&M University-Commerce

Entry: 1

Title: Research and Sponsored Programs Coordinator II

Description: Salaries for professional position responsible for providing administrative support to ORSP staff, the ORSP Director and the Vice Provost for Research.

Purpose/Intent: Coordinates the issuance of internally funded research awards to students and faculty; provides support to compliance staff and pre and post award administrators.

Benefit for the State or Institution: Ensuring that all externally funded research follows all appropriate guidelines allows the University to be in compliance with the established federal, state, and university regulations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$30,822
Operating Expenses	$0
Capital Expenditures	$0
Total	**$30,822**

Entry: 2

Title: Research and Sponsored Programs Administrators

Description: Salaries for professional positions responsible for the administration of externally funded research.

Purpose/Intent: Reviews, analyzes and interprets award documentation and expenses to identify potential items that may be a compliance issue; and conducts other reviews as necessary based on funded program guidelines.

Benefit for the State or Institution: Ensuring that all externally funded research follows all appropriate guidelines allows the University to be in compliance with the established federal, state, and university regulations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$40,034
Operating Expenses	$0
Capital Expenditures	$0
Total	**$40,034**

Entry: 3

Title: IACUC Chairperson (stipend for summer only)

Description: This position completes and directs the review, categorization, communication, and approval or disapproval of all IACUC applications.

Purpose/Intent: The purpose of this position is to continually evaluate and support faculty in research issues related to the following: animal care and use and responsible conduct of research.

Benefit for the State or Institution: Ensuring that all externally funded research follows all appropriate guidelines allows the University to be in compliance with the established federal, state, and university regulations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,256
Capital Expenditures	$0
Total	**$2,256**

Entry: 4

Title: Research Compliance Specialist

Description: Salaries for professional position responsible for all issues involved in the responsible and ethical conduct of research.

Purpose/Intent: The purpose of this position is to continually evaluate and support faculty in research issues related to the following: biosafety, human subjects, animal care and use, export control, conflict of interest, responsible conduct of research.

Benefit for the State or Institution: Ensuring that all externally funded research follows all appropriate guidelines allows the University to be in compliance with the established federal, state, and university regulations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$27,195
Operating Expenses	$0
Capital Expenditures	$0
Total	**$27,195**

Entry: 5

Title: Research Compliance Coordinator

Description: Salaries for professional position responsible for all issues involved in the responsible and ethical conduct of research.

Purpose/Intent: The purpose of this position is to continually evaluate and support faculty in research issues related to the following: biosafety, human subjects, animal care and use, export control, conflict of interest, responsible conduct of research.

Benefit for the State or Institution: Ensuring that all externally funded research follows all appropriate guidelines allows the University to be in compliance with the established federal, state, and university regulations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$42,900
Operating Expenses	$0
Capital Expenditures	$0
Total	**$42,900**

Entry: 6

Title: IRB Chairperson (stipend for summer only)

Description: This position completes and directs the review, categorization, communication, and approval or disapproval of all IRB applications.

Purpose/Intent: The purpose of this position is to continually evaluate and support faculty in research issues related to the following: human subjects and responsible conduct of research.

Benefit for the State or Institution: Ensuring that all externally funded research follows all appropriate guidelines allows the University to be in compliance with the established federal, state, and university regulations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$3,009
Capital Expenditures	$0
Total	**$3,009**

Texas A&M University-Corpus Christi

Entry: 1

Title: TCRF - S&E - MARB/CMSS FY17

Description: Provide graduate assistants the opportunity to assist with teaching research methods on campus and to participate in various research projects.

Purpose/Intent: Cultivates a stronger research environment for students at TAMU-Corpus Christi, particularly relating to Marine Biology and Coastal Marine System Science, and develop preliminary studies that can then be submitted for federal funding.

Benefit for the State or Institution: Increase awareness and interest in research participation to leverage for federal funding to the State of Texas.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$238,386
Operating Expenses	$0
Capital Expenditures	$0
Total	**$238,386**

Entry: 2

Title: TCRF - HARTE FY17

Description: TCRF - HARTE FY17.

Purpose/Intent: Fund Research Assistants with various research projects, particularly relating to the Gulf of Mexico and study of the artificial reefs and the increasing fish habitats from these structures.

Benefit for the State or Institution: Gather data and develop preliminary studies that will be submitted for federal funding.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$72,000
Operating Expenses	$0
Capital Expenditures	$0
Total	**$72,000**

Entry: 3

Title: TCRF - HARTE FY16

Description: TCRF - HARTE FY16.

Purpose/Intent: Fund Research Assistants with various research projects, particularly relating to the Gulf of Mexico and study of the artificial reefs and the increasing fish habitats from these structures.

Benefit for the State or Institution: Gather data and develop preliminary studies that will be submitted for federal funding.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$1,875
Operating Expenses	$0
Capital Expenditures	$0
Total	**$1,875**

Entry: 4

Title: FY16 TCRF CARRY FORWARD

Description: Funds research proposals.

Purpose/Intent: Funds faculty proposals for research.

Benefit for the State or Institution: Increasing the funding available for continued research is vital to becoming an emerging institution. Funds are set aside for reviewing, evaluating and awarding research proposals for the University that will then be federally funded.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$34,513
Capital Expenditures	$2,606
Total	**$37,119**

Entry: 5

Title: COMPREHENSIVE RESEARCH UNALLOCATED FY17

Description: Funds research proposals.

Purpose/Intent: Funds faculty proposals for research.

Benefit for the State or Institution: Increasing the funding available for continued research is vital to becoming an emerging institution. Funds are set aside for reviewing, evaluating and awarding research proposals for the University that will then be federally funded.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$25,040
Operating Expenses	$42,569
Capital Expenditures	$0
Total	**$67,609**

Entry: 6

Title: Integrated Support for Psychosocial Adjustment and Resilience through Counseling

Description: The requested funding support is in response to the HRSA Behavioral Health Workforce Enhancement and Training grant program to develop and expand the behavioral health workforce serving populations across the lifespan, including rural and medically underserved areas. The BHWET Program places special emphasis on establishing or expanding meaningful, longitudinal internships or field placement programs in behavioral health that include interprofessional training for students/interns, faculty, and field supervisors to provide quality behavioral health services.

Purpose/Intent: PI will help close the gap in access to behavioral health care services by establishing partnerships with a broad range of organizations and community partners to ensure a wide recruitment of students, opportunities for field placements, career development, and provide job placement services. Students will be trained in effective behavioral health treatment modalities at interprofessional and team-based care field placement sites or through internships that are working toward or have instituted the integration of behavioral health and primary care. These efforts will aid to increase the number of adequately prepared behavioral health providers serving populations across the lifespan, including persons in rural, vulnerable, and/or medically-underserved communities.

Benefit for the State or Institution: This program will:

(a) give 1.4 million proposal with IDC rate of 8%, project yields $112,000 in IDC over 4 years. This is a $111,000 return on the $1,000 investment;

(b) pays 120, $10,000 stipends to masters counseling students which has potential to:
   i. create access to higher education among students
   ii. serve as recruiting incentive to increase student enrollment;

(c) develops curriculum within the counseling program to reflect best practices for integrated care;

(d) will fund to doctoral graduate assistant within the College of Education.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,000
Capital Expenditures	$0
Total	**$1,000**

Entry: 7

Title: Center for Coastal Studies

Description: CRF Center for Coastal Studies.

Purpose/Intent: Provide student support for Research Center at Center for Coastal Studies.

Benefit for the State or Institution: Increase data collection/analysis and prepare preliminary projects for submission to federal agencies.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$29,852
Operating Expenses	$14,221
Capital Expenditures	$0
Total	**$44,073**

Entry: 8

Title: CRF - S&E FY17

Description: Science and Engineering research support.

Purpose/Intent: Provide support for faculty in S&E by employing graduate students to assist with research development.

Benefit for the State or Institution: Graduate students work with faculty on various research projects to bring them to a level that would be competitive for federal proposals.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$44,845
Operating Expenses	$0
Capital Expenditures	$0
Total	**$44,845**

Entry: 9

Title: CRF - Gulf of Mexico Env Lab FY17

Description: Gulf of Mexico Environmental Studies.

Purpose/Intent: Provides support for Gulf of Mexico Environmental Studies by way of funding student researchers.

Benefit for the State or Institution: Increase ability to submit proposal to federal funding agencies.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$23,333
Operating Expenses	$961
Capital Expenditures	$0
Total	**$24,294**

Entry: 10

Title: Physical Processes affecting Terrestrial Discharge of Groundwater to the Ocean Inferred from a Combination of NASA Products

Description: Variation in terrestrial water storage, including soil moisture, surface water volume, and groundwater are significant drivers of hydrologic, climatic, and ecologic processes and are important factors to consider for water resource management. The most significant climate change effects, increased temperature and evaporation rates and shifts in precipitation patterns, in combination with anthropogenic factors (i.e., increased water use and land use/land cover changes) affect the amount of water in storage in different parts of the hydrologic cycle (e.g., surface water and groundwater). To improve water resource management, it is critical to develop water monitoring systems for regional water budget and water storage estimates.

Purpose/Intent: Temporal and spatial variation in groundwater storage will be evaluated using data derived from NASA's Gravity Recovery and Climate Experiment (GRACE) spacecraft which provides monthly vertically-integrated changes in terrestrial water storage (TWS). Estimates of the freshwater flux variations to the Gulf of Mexico will be derived from changes of the TWS groundwater storage, precipitation patterns, evaporation rates, and overland and stream flow rates (including runoff). By providing baselines and future projections to enhance the decision making capabilities of water planning groups and a broad set of stakeholders through the use of data products from NASA's Earth science missions, the proposal is directly relevant to the NASA-ROSES A.25 solicitation.

Benefit for the State or Institution: This project benefits the institution as it aligns with the long-term goals toward becoming an Emerging Research Institution. If awarded this project will generate revenue to the institution, will help educate undergraduate and graduate students, and increase recognition at a national level.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$2,499
Operating Expenses	$0
Capital Expenditures	$0
Total	**$2,499**

Entry: 11

Title: College of Education Support

Description: This funds the support for College of Education.

Purpose/Intent: The fund assists with the enhancement of the college's research infrastructure.

Benefit for the State or Institution: The fund enhances the college's research infrastructure, thus improving its research capabilities. This will help with proposal submissions in the future which will then bring recognition and enhance the University's visibility in research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$4,158
Capital Expenditures	$0
Total	**$4,158**

Entry: 12

Title: College of Liberal Arts Support

Description: This funds the support for College of Liberal Arts.

Purpose/Intent: The fund assists with the enhancement of the college's research infrastructure.

Benefit for the State or Institution: The fund enhances the college's research infrastructure, thus improving its research capabilities. This will help with proposal submissions in the future which will then bring recognition and enhance the University's visibility in research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$6,332
Capital Expenditures	$877
Total	**$7,209**

Entry: 13

Title: College of Science and Engineering Support

Description: This funds the support for College of Science and Engineering.

Purpose/Intent: The fund assists with the enhancement of the college's research infrastructure.

Benefit for the State or Institution: The fund enhances the college's research infrastructure, thus improving its research capabilities. This will help with proposal submissions in the future which will then bring recognition and enhance the University's visibility in research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$23,916
Capital Expenditures	$20,336
Total	**$44,253**

Entry: 14

Title: NOAA Saltonstall-Kennedy: Testing the Effects of Community-Managed "Rest Areas" on Coastal Hawaiian Fisheries

Description: This is for Post Doc salary support for the titled research.

Purpose/Intent: The funding is to pay for a Post Doc under Dr. Chris Bird of College of Science.

Benefit for the State or Institution: Post-doc teaches a course spring, summer, fall each year. Post-doc also write proposal to enhance the University's visibility in research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$30,000
Operating Expenses	$0
Capital Expenditures	$0
Total	**$30,000**

Entry: 15

Title: Development of Optical Techniques to Characterize Micro Fingerprint Patterns

Description: This is for Post Doc salary support for the titled research.

Purpose/Intent: The funding is to pay for a Post Doc under Dr. Isaac Kim of College of Engineering.

Benefit for the State or Institution: Post-doc teaches a course spring, summer, fall each year. Post-doc also write proposal to enhance the University's visibility in research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$30,001
Operating Expenses	$0
Capital Expenditures	$0
Total	**$30,001**

Entry: 16

Title: TRDF - OSRS ASSESSMENT FEES FY17

Description: This is to fund OSRS Assessment Fees for TAMU-Corpus Christi.

Purpose/Intent: The funding is used to pay for SRS to process faculty's proposals.

Benefit for the State or Institution: SRS has the expertise and consistent and efficient procedures to enhance research administration. This helps make the proposals more competitive for funding opportunities. It also saves a lot of time for the University and faculty.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$139,751
Capital Expenditures	$0
Total	**$139,751**

Entry: 17

Title: Characterizing and Quantifying Plastic Debris using Unmanned Aircraft Systems (UAS)

Description: Plastic debris is a threat to ocean, organismal and coastal economic health. While general estimates exist for plastic loading to the ocean, significant research is needed to determine its environmental fate. This work is essential to determining the scale of the problem, understanding its potential impacts and societies' ability to work towards a solution.

Purpose/Intent: The objective of this research is to improve understanding of the beached plastic portion of the global plastic budget. To accomplish this objective, the PIs will develop a remote sensing method to quantify and characterized plastic debris on beaches and near-shore environments using unmanned aircraft systems (UAS).

Benefit for the State or Institution: The research proposed here, while not able to remove debris, would provide an alternative method that could collect data at broader spatial scales and shorter time intervals. This higher spatial and temporal resolution data is vital to understanding beached plastic accumulation, quantifying amounts and informing policy decisions. Using methods developed with TCRF funding, future studies could quantify the beached plastic component of the global plastic budget, thereby increasing global awareness of this issue and support efforts to mitigate plastic pollution.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$5,357
Operating Expenses	$1,584
Capital Expenditures	$5,559
Total	**$12,500**

Entry: 18

Title: South Texas Stories

Description: The oral history project will collect stories from people in the region who participated in the Chicano Movement of the 1960s and 1970s.

Purpose/Intent: The PI is organizing a public oral history workshop to teach members of the community how to collect their own interviews, and is going to host a two-day symposium on the history of the Chicano Movement in South Texas that will bring in former activists to share their experiences with the public.

Benefit for the State or Institution: These events will forge links between TAMU-Corpus Christi and the community and create an archive of the history of the civil rights struggle in South Texas that will provide faculty and students with opportunities for research and publication.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$3,000
Operating Expenses	$0
Capital Expenditures	$0
Total	**$3,000**

Entry: 19

Title: Smoke, Mirrors Exhibition at Marcia Wood Gallery

Description: The fund is to aid in framing for upcoming exhibition.

Purpose/Intent: The PI's research and subsequent creative activities will culminate in the framing and presentation of the works on paper, for display.

Benefit for the State or Institution: Exhibits such as this resonate with research outcomes of contributions to his field, national recognition and University reputation and support the TAMU-Corpus Christi momentum 20/20 vision.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,098
Capital Expenditures	$0
Total	**$1,098**

Entry: 20

Title: An Integrated Characterization and Simulation System for Microplastics in Coastal Watersheds

Description: This project addresses an urgent need to better understand the emerging microplastic pollution in the context of coastal environmental sustainability and water security.

Purpose/Intent: The proposed research is aimed at developing a watershed-scale quantitative understanding of the spatial distribution, transport and accumulation of microplastics in coastal watersheds.

Benefit for the State or Institution: This will improve the development and applications of advanced technologies in sensors, high-performance numerical simulation and unmanned aircraft systems, resulting in contributions to the fields of civil engineering, electrical engineering and geospatial sciences. Such efforts are aligned with TAMU-Corpus Christi's strategic research priorities in water-energy-food nexus and unmanned aircraft systems.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$7,780
Operating Expenses	$7,569
Capital Expenditures	$0
Total	**$15,350**

Entry: 21

Title: Identification of Microorganisms Associated with the Termination of a Harmful Algal Bloom

Description: In the proposed project, the PI proposes to utilize high-resolution metagenome sequencing to identify the microorganisms associated with the termination of a brown tide bloom. The PI hypothesizes that algicidal bacteria and viruses facilitate bloom termination by preying upon the abundant algae.

Purpose/Intent: The proposed project will identify the microorganisms associated with the termination of a harmful algal bloom. The data are expected to 1) answer open questions about the microbial community associated with bloom decline, 2) identify potentially algicidal bacterial and viruses, and 3) establish protocols and a baseline for future research.

Benefit for the State or Institution: The proposed project will seed research that will lead to the submission of three research proposals in the next year. The first will be submitted to the Texas General Land Office Coastal Management Program (GLO-CMP), which awards ~$2.2 million annually to coastal research focused on resilient communities and economies, sustainable fisheries and aquaculture, healthy coastal ecosystems, and education and workforce development (application deadline is September 22, 2017). The second will be submitted to the National Science Foundation (NSF) Biological Oceanography Program (OCE), which funds research in marine ecology, namely relationships among aquatic organisms and their interactions with the environments other oceans and Great Lakes (application deadline is August 15, 2017). The third will be submitted to the NSF Dynamics of Coupled Natural and Human Systems, which funds research on the complex interactions between natural and human systems at diverse scales (application deadline is November 21, 2017). Proposals will expand the scale and scope of the proposed TCRF project. Further, the broader impacts of these proposals will aim to expand collaborations with Del Mar College as a bridge between a community college and a four-year university.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,308
Capital Expenditures	$0
Total	**$1,308**

Entry: 22

Title: Chief Nursing Officer Perspectives on Hospital-based Building or Remodeling Projects

Description: Since the CNO is responsible for the largest sector of the health care workforce and is often included in renovation or new construction projects, a better understanding of how CNOs participate in these projects is central (Stichler & Cesario, 2007). The specific problem under scrutiny is the lack of understanding related to CNO roles and experiences in projects related to the built environment.

Purpose/Intent: The purpose of the proposed project is to describe experiences of chief nursing officers (CNOs) who have been involved in hospital based building or remodeling projects.

Benefit for the State or Institution: Most hospital research examines elements of direct patient care. While the direct care focus is significant because bedside nurses interface with patients and effect patient outcomes, it is also important to understand the CNO perspective in hospital operations. With healthcare delivery and technology changes occurring rapidly, CNOs must be prepared to engage fully in building projects to advocate for both clinicians and patients. CNOs represent bedside nurses at the highest levels and have the opportunity to share their unique perspectives on nonlinear nursing work patterns and the patient care environment (Potter et al., 2004; Stichler & Cesario, 2007).

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,453
Capital Expenditures	$0
Total	**$1,453**

Entry: 23

Title: TCRF - DISCRETIONARY FY17

Description: Funds research development and administration.

Purpose/Intent: This is to support research development and administration expense.

Benefit for the State or Institution: Research development and administration is an important part in assisting faculty with their research initiatives as well as driving the University in the path to become an emerging research institution.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$205,770
Operating Expenses	$35,203
Capital Expenditures	$7,987
Total	**$248,960**

Entry: 24

Title: Influence of Groundwater Discharge Variability on the Biological and Geochemical Drivers of Nitrogen Cycling within Organic Rich Sediments

Description: There is a general consensus that nutrient loading is a primary factor leading to hypoxia and triggering harmful algal blooms (HABs). Despite these recognized connections, nonpoint nutrient sources and the internal nutrient cycling in coastal ecosystems are still not well characterized. Much focus has been placed on monitoring nitrate (NO3-) loading from river discharge and its link to initiating hypoxia and HABs while much less is known about delivery and production of nutrients such as ammonium (NH4+) and dissolved organic nitrogen (DON) from nonpoint sources (e.g. coastal sediments, photoammonification). This study will focus on these cryptic nutrient pathways by characterizing 1) NH4+ and DON loading resulting from flushing of coastal sediments via submarine ground water discharge (SGD) and 2) NH4+ photoproduction in coastal water columns. This will be achieved through the following objectives: 1 - Understanding the factors controlling SGD rates and variability in relation to timing and extent of nutrient fluxes and availability in semi-arid embayments; 2 - Understanding the role of SGD in accumulation of dissolved organic nitrogen compounds in the pore water of organic rich sediments; 3 - Determining the photoproduction rates of ammonia, low molecular weight acids and amino acids from pore water; 4 - Characterizing the sources and processing of dissolved organic nitrogen and ammonium; and 5 - Determining the relative abundance and activity of the bacteria responsible for dissimilatory nitrate reduction to ammonium (DNRA), denitrification, and anammox, as well as identify the genetic pathways responsible for deamination and ammonia production.

Purpose/Intent: The purpose of this study is to determine the significance of SGD nutrient delivery and photoammonification contributions to N loading in coastal ecosystems. We hypothesize that these often overlooked nutrient delivery and production pathways will answer the perplexing question: "What are the N sources supporting high productivity and N cycling rates observed in coastal ecosystems that lack N point source loading?" Preliminary data obtained by the PIs and eluded to in the literature suggest that SGD flushing of sediments and photomammonification provide ample N for primary production in N limited ecosystems. Expected results from this study will change how scientists and policy makers view nutrient loading and the nitrogen cycle in coastal ecosystems.

Benefit for the State or Institution: This study is imperative to the understanding of hypoxia formation and HABs, which significantly impacts ecological stability and human health. This will provide novel information about the influence of SGD in flushing nutrients from coastal sediments as well as the significance of photoammonification in the water column. Comprehending these under-characterized pathways of nutrient delivery and production in coastal ecosystems will position the University at the forefront of understanding how N dynamics relate to hypoxia and HAB formation in N limited coastal ecosystems. Furthermore, this research will provide a unique opportunity for graduate student research and undergraduate training on projects that will combine physical, biogeochemical and advanced analytical techniques; thus providing students with truly interdisciplinary experiences.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$179
Capital Expenditures	$0
Total	**$179**

Entry: 25

Title: Pilot Study of Trauma-Focused Therapy for Treating PTSD Symptoms and Affecting Neurocortical Changes in a Community Population

Description: This is a pilot study of trauma-focused therapy for treating PTSD symptoms and affecting neurocortical changes in a community population.

Purpose/Intent: The purposes of this funding request are

(a) to provide foundational support for the researcher to move into a new area of empirical research (biological measurement of therapeutic outcomes) through implementation of an applied, primary research project,
(b) contribute to a peer-reviewed, academic publication record within the area of interest that supports credibility when applying for external funding, and
(c) provide pilot data that warrants the expansion of the area-specific research infrastructure through larger project implementation supported by external funding mechanisms.

Benefit for the State or Institution: From a broader perspective, this project will be the first of its kind within the counseling outcome research and evaluation literature to report both neurologically-based and construct-referenced outcomes and should yield a minimum of two scholarly publications that illustrate innovative practices on our campus. At local and state levels, this project will provide causal evidence related to a viable treatment for mental health service providers in Nueces County and within the Texas Department of State Health and Human Service mental health treatment system. On a campus level, this project provides an opportunity for the researcher to move into a new area of research activity that will provide foundational support for developmental and applied experiences that will support application to the National Institutes of Mental Health Academic Research Enhancement Award (AREA) Program (R15) within 18 months. If awarded through the AREA Program (R15), there will be substantial increases to the research infrastructure (equipment, facilities, student support, curriculum enhancement) associated with the potentially $100,000 per year over a renewable 3-year period. This project is aligned with activities that promote the university mission to seek status as an emerging research institution that attracts top doctoral students, research faculty, and national interests to the coastal bend region.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$3,088
Capital Expenditures	$0
Total	**$3,088**

Entry: 26

Title: Deep Spatio-Temporal Learning Framework for Geospatial Data Analytics

Description: This research develops a deep spatio-temporal learning framework to address the issues of analyzing big and heterogeneous geospatial data and to support actionable knowledge and decision making.

Purpose/Intent: The research aims to achieve three major goals in this project:

I. To improve deep architecture for large volume of unlabeled geospatial data.
II. To develop deep learning framework for object localization in both active and passive sensors such as optical, thermal, and radar.
III. To design an automatic quality assessment and uncertainty analysis framework for results generated from multi-source data.

Benefit for the State or Institution: The proposed project will develop effective and efficient methods to extract unknown and unexpected information from geospatial data of unprecedentedly large size, high dimensionality, and complexity. The knowledge extracted from spatio-temporal data is extremely important for decision making in various domain such as agricultural monitoring, urban planning, remote sensing of glacier, and disaster management.

Salaries/Wages for New or Reassigned FTEs	$2,730
Salaries/Wages for Existing FTEs	$2,561
Operating Expenses	$0
Capital Expenditures	$5,700
Total	**$10,991**

Entry: 27

Title: The Removal of Terrestrial Dissolved Organic Matter in Coastal Regions by Photo-Flocculation Process

Description: The research explores the possibility that photochemically-induced flocculation of tDOM during its transit thru estuaries and coastal waters is occurring and accounts for, in part, the apparent discrepancy.

Purpose/Intent: The research proposes to address questions and hypotheses regarding geochemical significance of photochemical flocculation of tDOM in estuarine and coastal waters.

Benefit for the State or Institution: The results from this pilot study will be an ideal preliminary data to support a submission of more comprehensive proposal to National Science Foundation (NSF) that will address what are the geochemical implications of this photo-flocculation in terms of cycling organic C, organic N and iron in estuaries.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$8,508
Operating Expenses	$12,978
Capital Expenditures	$0
Total	**$21,486**

Entry: 28

Title: Research Trip To Apply for Grants to Develop a Letterpress Studio and Center for Print Culture Studies at TAMU-Corpus Christi

Description: The PI will visit The University of Texas at Austin and meet with Kevin Auer who has set up their printing studio and design lab and has also developed a printing center at University of Houston-Victoria and thus will be a valuable resource to consult with about acquiring presses and materials and designing her grant applications (both internally and externally). The PI will also be visiting the printing and publishing archives at The University of Texas at Austin Ransom Center to continue to develop her own research projects on modernist print cultures for publication.

Purpose/Intent: This trip will enable the PI to gather valuable information to assist in writing the TCRF Program Development Grant for this spring and for developing her NEH Humanities Initiative Grant for submission next summer.

Benefit for the State or Institution: This project will lead into future grants that will benefit the TAMU-Corpus Christi Community and build an interdisciplinary center for print cultures and the history of the book in South Texas. The PI will apply for the TCRF Program Development Grant in Spring 2017 and to develop her application for an NEH Initiative Grant (for HSIs) of $100,000 in Summer 2018 to develop an interdisciplinary print culture center on campus. The PI would use these grants to develop a Letterpress printing studio here at Texas A&M-Corpus Christi to foster interdisciplinary research and teaching of book history and print cultures across campus.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$267
Capital Expenditures	$0
Total	**$267**

Entry: 29

Title: The Grant Shop

Description: To create a summer institute for graduate students, and possibly some faculty, that will use community-based research, situated learning, and grant writing to help regional organizations meet community identified needs.

Purpose/Intent: To help the University take advantage of its already excellent outreach efforts to create research opportunities for graduate students and faculty while strengthening existing outreach efforts.

Benefit for the State or Institution: TAMU-Corpus Christi is at the forefront of innovative work being done concerning writing in the nonprofit world; currently, the only other institution that has a program dedicated to the study of writing in the nonprofit sector and to developing professionals with this expertise is The New School in New York City. This project has the opportunity to make TAMU-Corpus Christi a leader, not only in the region, but in the nation.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$451
Capital Expenditures	$0
Total	**$451**

Entry: 30

Title: NSF CISE CAREER Workshop 2017

Description: This event will introduce junior faculty to the NSF CAREER program, and help them prepare their CAREER proposal.

Purpose/Intent: To prepare for CAREER proposal.

Benefit for the State or Institution: The NSF CAREER program serves a critical role in the National Science Foundation's efforts to identify, foster and support the nation's most promising junior faculty in both research and education. Junior professors who are just starting their careers often have limited experience with grant writing and evaluation. They also have little or no interaction with the program directors at NSF. In this workshop, early-career faculty members will have the opportunity to improve their skills in proposal writing, as well as interact with NSF program directors from different divisions (ACI, IIS, CNS, and CCF) as well as recent NSF CAREER awardees. The workshop is also open to multidisciplinary researchers with a CISE-specific focus, including cyberinfrastructure.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$500
Capital Expenditures	$0
Total	**$500**

Texas A&M University at Galveston

Entry: 1

Title: Support of a pilot study (Dr. Robert Wells)

Description: Support to purchase acoustic receivers, tags, vessel fees for research preliminary data.

Purpose/Intent: Build an acoustic tracking array in the Galveston Bay estuary to begin understanding the distribution and movement of species to identify biodiversity hotspots that are used as nursery and feeding areas, particularly in the face of increasing environmental stressors.

Benefit for the State or Institution: The obtained preliminary data will be used for research development. The array can be expanded upon and used by multiple researchers leading to future collaboration opportunities.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$
Capital Expenditures	$26,740
Total	**$26,740**

Entry: 2

Title: Center for Texas Beaches and Shores (Dr. Samuel Brody)

Description: Partial operating expenses for the Center for Texas Beaches and Shores (CTBS).

Purpose/Intent: CTBS research focuses on sustainable coastal management, climate change planning, natural hazards mitigation, fostering the development of resilient coastal communities, and using spatial tools to examine and disseminate data to coastal stakeholders and other interested parties.

Benefit for the State or Institution: Support provided by TCRF enabled CTBS to advance science and policy for protecting people and property along the Texas Coast. Of note, CTBS/TAMU-Galveston was awarded a TX GLO grant of $1.6 million total over the next year for research on flood risk reduction. CTBS external funding is supporting students, staff, and visiting researchers, expanding the strategic partnerships nationally and internationally, and increasing the capacity of the Texas Coastal Communities Atlas.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$14,209
Operating Expenses	$491
Capital Expenditures	$0
Total	**$14,700**

Entry: 3

Title: Repair of Picarro CRDS (Dr. Rainer Amon)

Description: The optical cell of the analyzer was damaged during a power outage and needed replacement.

Purpose/Intent: Repair and update the Picarro CRDS in order to analyze existing samples from the Gulf of Mexico.

Benefit for the State or Institution: The repair will restore an instrument that was originally purchased with State funds and will make it available for ongoing research projects to better understand the health of the Gulf of Mexico and as a teaching tool for our undergraduate and graduate students. The CRDS is a cost effective way to determine the isotopic composition of hydrogen and oxygen in water and represents an effective tool to teach isotope geochemistry tot he next generation of marine scientists in Texas.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$6,634
Capital Expenditures	$0
Total	**$6,634**

Entry: 4

Title: Total Organic Repair (Dr. Karl Kaiser)

Description: Repair a total organic carbon analyzer.

Purpose/Intent: Repair of the equipment allows the faculty to continue their research.

Benefit for the State or Institution: The repair will restore an instrument that was originally purchased with State funds and will make it available for ongoing research projects to on water quality and global biochemical element cycling.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,032
Capital Expenditures	$0
Total	**$2,032**

Entry: 5

Title: Leatherback Turtle Research (Dr. Randall Davis)

Description: Purchase of transmitters for tracking leatherback sea turtles.

Purpose/Intent: Support for "Diving behavior and foraging ecology of leatherback sea turtles in the Gulf of Mexico" research. The overall goal is to study the foraging strategies, prey species and consumption and include their movements in and around the Gulf of Mexico.

Benefit for the State or Institution: Leatherback turtles are one of the most endangered species of sea turtles and there is a need of information on their movements and behavior at sea. The transmitters will enhance our understanding of their movements and at-sea behavior which is important in designing a recovery plan under the Endangered Species Act.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$14,930
Capital Expenditures	$0
Total	**$14,930**

Entry: 6

Title: High Performance Research Computing (Dr. Antonietta Quigg)

Description: Support for high performance research computing time on a supercomputer.

Purpose/Intent: Texas A&M High Performance Research Computing provides users with large data sets and/or those with needs for high computational power (not available in a regular PC) opportunities to conduct their research in a framework that supports both their computational needs, software management and support as well as the speed and dependability required in such a system.

Benefit for the State or Institution: Texas A&M High Performance Research Computing facility and access provides faculty, staff and students which need this kind of technology to conduct their research without the huge upfront costs or the on-going expenses. It also provides a staff with experience and knowledge in the operating systems, software, etc.. required to handle the large data sets as well as the best plan for processing and managing this data. For students and especially new researchers, this allows them to rapidly and seamlessly work on their research while conducting other activities on their personal computers. The work done with the HPRC will lead to research grants, publications and elevate the programs on campus in related areas by increasing the success of faculty, staff and students.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$120,000
Capital Expenditures	$0
Total	**$120,000**

Entry: 7

Title: Unmanned Aircraft System (UAS) and Peripherals (Dr. Glen Jones)

Description: Purchase of DJI Matrice 500 Pro model UAS and its peripherals.

Purpose/Intent: The equipment capability provides higher flights to capture a larger area with higher resolution imaging than now capable.

Benefit for the State or Institution: We will disseminate this knowledge to various port managers and ship operators in Texas and other appropriate stakeholders.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$6,781
Capital Expenditures	$11,892
Total	**$18,673**

Entry: 8

Title: Swim Tunnel Respirometers (Dr. Lene Petersen)

Description: Purchase of two swim tunnel respirometers with oxygen consumption and water velocity measurement equipment and software.

Purpose/Intent: The equipment enables investigations of cardiovascular performance, swimming performance and assessment of fluid dynamics in various piscine model organisms.

Benefit for the State or Institution: The equipment is standard in the broad field of fish physiology, kinematics and toxicology. The equipment will enhance the research capacity of the researchers and will also attract students interested in fish physiology, toxicology, animal performance, fluid dynamics and engineering. The equipment has the ability to enhance the research and educational competitiveness as compared to peer marine institutions.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$3,402
Capital Expenditures	$41,664
Total	**$45,066**

Entry: 9

Title: Purchase of Microwave Extraction System and Support (Dr. Timothy Dellapenna)

Description: Purchase of microwave extraction system.

Purpose/Intent: The equipment will be used to establish a dating technique which is automated and reduces the sample processing time by several hours.

Benefit for the State or Institution: Using the microwave extraction system will reduce sample digestions from around an 18-hour procedure to around 3 hours, is automated and streamlines the procedure.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$5,100
Operating Expenses	$1,233
Capital Expenditures	$10,045
Total	**$16,378**

Entry: 10

Title: High-Resolution, Dual Frequency Echosounder - Hydrolite-DFX (Dr. Peter vanHengstum)

Description: Purchase of a high-resolution, dual frequency echosounder for geophysical assessments.

Purpose/Intent: The equipment will conduct high-resolution bathymetric and topographic surveys in the coastal zone and the datasets can be merged to create high-resolution Digital Elevation Models (DEMs).

Benefit for the State or Institution: The Hydrolite-DFX is a strategic expansion of existing instrumentation and computation capabilities that can assist in achieving strategic objectives for the University. The instrument will assist in generating new high resolution digital elevation models to expand into new research directions. The equipment will expand the potential research completed by the undergraduate students, contributing to research experiences and student success. The equipment will promote further collaboration between faculty concentrated in the geospatial and geophysical sciences.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$6,950
Capital Expenditures	$8,500
Total	**$15,450**

Entry: 11

Title: HPLC, SPE Extraction System & Picarro (Dr. Karl Kaiser)

Description: Purchase of an automated solid phase extraction (SPE) system, a high pressure liquid chromatography (HPLC) system and an interface for existing Picarro.

Purpose/Intent: The high pressure liquid chromatography is used with the mass spectrometer to identify unknown organic compounds. The interface will enable the current Picarro to analyze gas and solid samples.

Benefit for the State or Institution: The solid phase extraction instrument in combination with a high pressure liquid chromatograph (HPLC) will allow TAMU-Galveston researchers to measure pollutants and chemical biomarkers. TAMU-Galveston researchers will use these instruments to engage in the TAMU One Health initiative to the benefit of the State of Texas. The Picarro interface will allow TAMU-Galveston researchers to measure stable carbon isotopes in sediment and soil samples.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$8,804
Capital Expenditures	$91,463
Total	**$100,267**

Entry: 12

Title: Research Support for the Role of Hurricane Information on Climate Change Perceptions in the Gulf Coast (Dr. Ashley Ross)

Description: This project surveys Gulf Coast residents on their climate change beliefs and risk perceptions.

Purpose/Intent: The purpose of the study is to identify what type of climate change information changes risk perceptions.

Benefit for the State or Institution: The Texas Gulf Coast is experiencing changing climate and sea level rise. This coupled with intense storms like Hurricane Harvey make it imperative to identify how public risk perceptions may be changed in proportion to real risk.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$8,000
Capital Expenditures	$0
Total	**$8,000**

Entry: 13

Title: Research Support for The Antecedents of Safety in Shipping Pilot Study (Dr. A Gharehgozli)

Description: Purchase of Fitbits for biometric measures.

Purpose/Intent: The purpose of this study it to understand the affect that individual personalities have on the safety and performance onboard a ship during operations. This will be done by determine base personalities of students who take a class using simulators to mimic real world situations that arise will operating vessels. Heart rate monitors will also be worn to determine the effect of stress on ship safety and performance.

Benefit for the State or Institution: The Port and Shipping Industry is very important to the state of Texas. It is also very important Texas A&M University at Galveston. This study will also help develop teaching methods based on different personality types to achieve the best results for ship safety and ship performance. It will also include information on ways to improve the safety and performance of shipping by managing personalities on board ships. the information will be disseminated to various port managers and ship operators in Texas, and other appropriate stakeholders

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$4,674
Capital Expenditures	$0
Total	**$4,674**

Entry: 14

Title: Thermomechanical Analyzer (Dr. Edward Clancy)

Description: Purchase of a Thermomechanical Analyzer.

Purpose/Intent: The Thermomechanical Analyzer is a tool that is utilized to measure appreciable changes caused by the free volume of amorphous or polymeric material system with changes in temperature.

Benefit for the State or Institution: The equipment will allow researchers to apply for federal and industry grants requiring these specialized measurements and to train marine engineering technology students in the development of new materials.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,760
Capital Expenditures	$46,750
Total	**$48,510**

Entry: 15

Title: LightCycler II 480 (Dr. Jaime Alvardo-Bremer)

Description: Replacement of a LightCycler that is no longer supported by the manufacturer.

Purpose/Intent: This instrument will be used in a wide variety of applications that employ RT-PCR and HRMA, including forensic identification of species to population genetics.

Benefit for the State or Institution: Research conducted using this instrument will benefit conservation efforts including the rapid identification of cryptic invasive species that could be damaging to Texas flora and fauna. Rapid identification of fish larvae using this instrument will facilitate the analysis of recruitment potential of many species subject to commercial and sport fisheries such as tunas, and others of ecological importance such as flying fishes all of them distributed in Texas waters.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$3,320
Capital Expenditures	$28,300
Total	**$31,620**

Entry: 16

Title: Monochrome Camera (Dr. Christopher Marshall)

Description: A microscopy camera for image fluorescently tagged cells and tissue for any type of organism. We are currently using the equipment to investigate the neurobiology of seals and sea lions.

Purpose/Intent: To document via digital photography the form and function of animal tissues at the cellular and histological and immunohistochemical organization level. Documenting the form and function of tissues allows the PI to determine how animals work and interact with the environment. Such studies help us to understand their ecology and evolutionary innovations.

Benefit for the State or Institution: This piece of equipment is used by the PI, graduate students and undergraduate students. It will allow us to continue publishing peer-reviewed manuscripts, teach imaging techniques to 30+ undergraduate students and has been instrumental to undergraduate and graduate thesis work. Much of our lab work is histological. We have approximately $50K of histological equipment in the lab that is used to produce high optical quality microscope slides of animal tissue. This camera is the final stage of a protocol that utilizes all that other histological equipment and documents the final results of our histological research. This camera is foundational to all the laboratory work that we do on any type of animal within Texas and outside of Texas.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,580
Capital Expenditures	$0
Total	**$2,580**

Entry: 17

Title: Research Support (Dr. Maria Pia Miglietta)

Description: Support for gene expression of the "immortal" jellyfish Turritopsis dohrnii.

Purpose/Intent: To map genes that are active during life cycle reversal in Turritopsis dohrnii, with particular focus on Telomerase, apoptosis and cell division.

Benefit for the State or Institution: Life cycle reversal, immortality, telomerase activity are topic of interest in developmental biology, cancer and stem cell biology. Understanding how basal animal taxa such as T. dorhnii regenerate is important to design new model systems. T. dohrnii is also present in the Gulf of Mexico and it is one of the few species that can perform a full life cycle reversal.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,774
Capital Expenditures	$0
Total	**$2,774**

Entry: 18

Title: Quad MS Battery Back-Up (Dr. Karl Kaiser)

Description: Purchase of a quad MS battery back-up.

Purpose/Intent: To provide clean and uninterruptible power for critical research instruments during weather events.

Benefit for the State or Institution: Protect critical research instruments from damage in the event of power surges/outages during extreme weather events.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$
Capital Expenditures	$9,000
Total	**$9,000**

Entry: 19

Title: Sea Life Facility

Description: Sea Life Facility partial operational support.

Purpose/Intent: To provide support for operation and maintenance of Sea Life Facility.

Benefit for the State or Institution: This facility is one of the largest and best designed facilities for controlled studies of marine systems and coastal lagoons in the Gulf of Mexico. Installing individual mesocosms (tanks, aquaria, etc.) and integrating them into the 40,000 gallon recirculating sea water system provides the means for TAMU-Galveston faculty to design studies that will increase understanding of the ecosystems of the Gulf of Mexico and the resources contained therein.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$122
Capital Expenditures	$0
Total	**$122**

Entry: 20

Title: Leica Camera (Dr. David Wells)

Description: Purchase of a Lecia Camera.

Purpose/Intent: To take digital images of samples for identification, age and growth studies.

Benefit for the State or Institution: The equipment is critical for several of the ongoing projects in the Shark Biology & Fisheries Science lab at TAMU-Galveston. Post-docs, graduate, and undergraduate students all make full use of this camera for their research projects.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,384
Capital Expenditures	$0
Total	**$2,384**

Entry: 21

Title: Freezing Microtome Stage (Dr. Chris Marshall)

Description: A freezing stage used on a sledge microtome for histological processing of tissues by thinly sectioning it for microscopy analysis.

Purpose/Intent: To thinly section and many different types of tissues to examine anatomy and microstructure of organs, tissues, and even cellular levels which can applied in many aspects.

Benefit for the State or Institution: This piece of equipment is vital for this lab. It is used by undergraduates, graduate students, and the PI. It has allowed us to publish 10+ peer-reviewed manuscripts, teach histological techniques to 30+ undergraduate students and has been instrumental in multiple graduate and undergraduate thesis work. Our lab has a very large portion dedicated to histology and histological equipment. With this stage we can continue to produce top quality samples that can be used in publications.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$5,102
Capital Expenditures	$0
Total	**$5,102**

Texas A&M International University

Entry: 1

Title: Comprehensive Research Fund

Description: NA

Purpose/Intent: Intended for supporting the operations of the University Office of Research & Sponsored Projects.

Benefit for the State or Institution: The Office of Research & Sponsored Projects works closely with the university faculty in the development of research related grant proposals.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$213,309
Operating Expenses	$0
Capital Expenditures	$0
Total	**$213,309**

Texas A&M University-Kingsville

Entry: 1

Title: Library Research Acquisitions

Description: These funds provided access to a premiere resource in business-related research - EBSCO Discovery Service.

Purpose/Intent: EBSCO Discovery Service (Javelina Discovery) offers the University community an integrated search of nearly all Jernigan Library assets, including the library catalog and online resources from most library databases. Library users are able to search for millions of items through the discovery platform, many of them full text.

Benefit for the State or Institution: Javelina Discovery simplifies and enhances the search capabilities for all university personnel, and is therefore an important component of the Jernigan Library's support of research at all levels.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$130,499
Capital Expenditures	$0
Total	**$130,499**

Entry: 2

Title: Strategic Initiatives

Description: Funds used to support professional development for faculty and staff to include conferences for funding opportunities, sponsoring agency updates and research compliance.

Purpose/Intent: Funds used to support professional development for faculty and staff to enhance knowledge in the research administration field.

Benefit for the State or Institution: The professional development will allow faculty and staff to increase the number of quality proposals submitted to sponsoring agencies. The professional development will also provide the faculty and staff with specific tools needed to manage research funds to insure compliance with agency and university rules and regulations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$6,609
Capital Expenditures	$0
Total	**$6,609**

Entry: 3

Title: Office of Research Training - Staff and Faculty

Description: Funds used to support professional development for faculty and staff to include conferences for funding opportunities, sponsoring agency updates and research compliance.

Purpose/Intent: Funds used to support professional development for faculty and staff to enhance knowledge in the research administration field.

Benefit for the State or Institution: The professional development will allow faculty and staff to increase the number of quality proposals submitted to sponsoring agencies. The professional development will also provide the faculty and staff with specific tools needed to manage research funds to insure compliance with agency and university rules and regulations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$22,421
Capital Expenditures	$0
Total	**$22,421**

Entry: 4

Title: Office of Research Compliance Support

Description: Funds used to support professional development for faculty and staff to include conferences for funding opportunities, sponsoring agency updates and research compliance.

Purpose/Intent: Funds used to support professional development for faculty and staff to enhance knowledge in the research administration field.

Benefit for the State or Institution: The professional development will allow faculty and staff to increase the number of quality proposals submitted to sponsoring agencies. The professional development will also provide the faculty and staff with specific tools needed to manage research funds to insure compliance with agency and university rules and regulations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$7,495
Operating Expenses	$1,020
Capital Expenditures	$0
Total	**$8,515**

Entry: 5

Title: Research Presentations and Professional Development

Description: Faculty member was able to present their research at AMLE (Association for Middle Level Education), SERA (Science & Engineering Research Academy), and the Professional Development at ASCD (Association for Supervision and Curriculum Development).

Purpose/Intent: Presentations of research at a National (AMLE) and Regional (SERA) conference. Gained professional development in being a teacher educator and experienced another national conference for possible presentation in the future (ASCD).

Benefit for the State or Institution: Presentations at conferences served as platforms for feedback on research to be developed into publications for submission. Attendance at conferences increased knowledge of being a teacher educator, expectations for presentations in various formats, and opportunities to network and serve in professional organizations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$598
Capital Expenditures	$0
Total	**$598**

Entry: 6

Title: Behavioral Support - Arts & Science Department

Description: Behavioral Science Research Support.

Purpose/Intent: The behavioral sciences committee is a multidisciplinary group of researchers at Texas A&M University-Kingsville. The committee membership consists of research representation from Psychology, Engineering, Sociology, and Communications Disorders. The goal of the committee is to facilitate the growth of social-behavioral research at Texas A&M University-Kingsville by building a supportive environment for faculty involved in social-behavioral related research, facilitating shared communication, promoting collaborative research endeavors including team-based research and funding opportunities. Since its inception, the overall achievements of the committee include furthering a supportive research mission of the University by supporting faculty release time to encourage the pursuit of scholastic endeavors which include the submission of several large National Institute of Health grant proposals - SC3, R03, NIH BUILD, and MBRS-RISE.

Benefit for the State or Institution: This research investment leads to sustainability and capacity building efforts. The research endeavors linked to this committee are impacted locally, regionally, and within the state. The state benefits when the multiple research articles are submitted that ultimately increases the body of behavioral science knowledge, multidisciplinary work, productivity, and grant attractiveness of multiple behavioral science research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$605
Capital Expenditures	$0
Total	**$605**

Entry: 7

Title: Design, Simulation, Fabrication and Testing of Solar Tracking Mechanisms

Description: Mechanisms are mechanical devices used to transfer or transform motion, force, or energy. Solar tracking mechanisms orient solar panels toward the sun to increase solar energy harvesting. To maximize energy capture, solar tracking mechanisms change solar panels' orientation throughout the day to follow the sun's path and make solar panels normal to the solar ray. Sun travels about 180 degrees from east to west during the daytime. The current solar tracking mechanisms make solar panels perpendicular to the solar ray, because of the active motion control of the solar panels. However, they also consume considerable power since the rotations of solar panels are directly driven by motors. The merits of current solar tracking mechanisms are severely compromised by their motor power consumption. This project aims at surmounting the challenges facing current solar tracking mechanisms.

Purpose/Intent: Research objectives of this project are:

(a) the developed solar tracking mechanism has full solar tracking function;
(b) the power consumption of the developed solar tracking mechanism is significantly reduced; and
(c) the total costs of the developed solar tracking mechanism are below the currently available solar tracking mechanisms.

Benefit for the State or Institution: The goal of this project is to develop a solar tracking mechanism that fully fulfills solar tracking function and has less power consumption and lower cost. In the current solar tracking mechanisms, the rotations of solar panels are directly driven by motors. The direct-driving solar tracking mechanisms are easy to design and convenient to control, but the motors are required to have enough torque and power to directly drive solar panels. High torque and power motors are costly and consume a lot of power. In this project, the linkage will be added between solar panels and their foundation. Linkages are mechanisms that consist of links and joints.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,268
Capital Expenditures	$0
Total	**$1,268**

Entry: 8

Title: Developing Habitat Suitability Models for Wildlife Using Landscape Metrics

Description: Habitat suitability models have been widely used to assess habitat quality for wildlife species (Wordley et al., 2015). These tools are models designed to quantify habitat quality using habitat attributes deemed important for wildlife. Rio Grande wild turkeys are an important component of the wildlife community in South Texas. Wild turkeys are of aesthetic and economic value to the regions private landowners. They are one of the most popular gamebirds in Texas. Because of their local and regional importance we plan to use this species as a model species to develop spatially-explicit habitat suitability models for wildlife in South Texas. There is a very few habitat suitability models developed for wild turkeys. Several study areas will be used: (1) Norias, Encino, and Laurels division of King Ranch. Aerial photography will be acquired and processed in ERDAS 2015 (Hexagon Spatial). Turkey locations will be determined using Location of a Signal (LOAS) software. Given the extensive use of telemetry data for wildlife studies, this could provide a significant amount of new information for model development using already collected data.

Purpose/Intent: The aim of this project is to develop and evaluate a landscape level nesting habitat suitability model for Rio Grande wild turkeys in South Texas. The specific objectives of this project include:

(1) the selection of landscape metrics that are related to habitat factors for female Rio Grande wild turkeys during nesting,
(2) the development of a habitat suitability model based on landscape spatial characteristics, and
(3) the evaluation of the model by testing it with existing data for South Texas.

Benefit for the State or Institution: The results of this project will provide reliable knowledge on the use of landscape metrics for habitat suitability models, and they will be used as a platform to propose the development of spatially-explicit habitat suitability models using landscape structure for wildlife habitat. We expect to have at least one peer-reviewed journal article in a national outlet, two presentations at a state and national meetings (Texas Chapter The Wildlife Society; US Chapter of the International Association for Landscape Ecology) and the submission of at least two research proposals to external funding agencies.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$10,010
Operating Expenses	$0
Capital Expenditures	$0
Total	**$10,010**

Entry: 9

Title: Biomedical Support - Arts & Science Department

Description: Biomedical Sciences Research Support.

Purpose/Intent: The biomedical committee is a multidisciplinary group of researchers at Texas A&M University-Kingsville. The committee membership consists of representation from the Department of Animal - Rangeland and Wildlife Sciences, Department of Chemistry, Department of Biological and Health Sciences, Department of Human Sciences, Department of Mechanical and Industrial Engineering, and Department of Health & Kinesiology. College representation includes the Dick & Mary Lewis Kleberg College of Agriculture, Natural Resources and Human Sciences, College of Arts and Sciences, College of Education and Human Performance, and Frank H. Dotterweich College of Engineering. The goal of the committee is to facilitate the growth of biomedical research at Texas A&M University-Kingsville by building a supportive environment for faculty involved in biomedical-related research, facilitating shared communication, promote collaborative research endeavors including team-based research and funding opportunities. Since its inception, the overall achievements of the committee include furthering a supportive research mission of the University by supporting faculty release time to encourage the pursuit of scholastic endeavors, purchasing equipment for biomedical research, and to provide expert advise on the development of a biomedical core laboratory.

Benefit for the State or Institution: The activities of the committee resulted in positive areas of impact institutionally, locally, and state-wide. Faculty release and the purchase of new instrumentation will impact faculty and student research capacity and competitiveness that may result in increased training opportunities and funding. Submission of collaborative National Institute of Health proposals enhanced the potential for obtaining biomedical funding, promoted collaborative, team-science based biomedical research at Texas A&M University-Kingsville and other state research intensive institutions. Overall, the establishment of the Texas A&M University-Kingsville Biomed Committee has resulted in an enthusiasm among the Biomed faculty that had not previously existed.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$13,779
Operating Expenses	$26,221
Capital Expenditures	$0
Total	**$40,000**

Entry: 10

Title: Citrus Center

Description: Research salary support for this large research component of the University.

Purpose/Intent: The Citrus Center provides research and service support to the multimillion dollar Texas citrus industry and develops future leaders through academic training of graduate students. It focuses on citrus variety development, pest and disease control, plant physiology, soil science and irrigation technology, using both established and cutting edge technologies.

Benefit for the State or Institution: The Citrus Center is the only state funded research facility dedicated to serving the Texas citrus industry. Over 1,900 industry jobs are currently provided, and increased plantings resulting from acreage reduction in Florida caused by disease, weather and urbanization, will provide increased employment opportunities. A large Californian citrus company has also recently acquired extensive citrus acreage in South Texas, which bodes well for the future of the industry. It is propagating large numbers of new trees for expanding its citrus acreage. The citrus industry faces threats from endemic and exotic pests and diseases, as well as water issues, and faculty at the Citrus Center are leading research programs to counter these threats, thereby enabling the industry to remain profitable.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$133,651
Operating Expenses	$3,550
Capital Expenditures	$0
Total	**$137,201**

Entry: 11

Title: Research Support - College of Agriculture

Description: To support research and proposal development involving new faculty.

Purpose/Intent: The funding will be used to assist with the faculty's current research involving agricultural education with an emphasis in STEM and agricultural mechanics safety education.

Benefit for the State or Institution: Funding enables faculty to compete for grants and research projects which includes the development of peer-reviewed publications, travel, and the opportunity to attend research conferences.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$11,352
Operating Expenses	$2,396
Capital Expenditures	$0
Total	**$13,748**

Entry: 12

Title: Research Support - College of Agriculture

Description: To support research and proposal development involving new faculty.

Purpose/Intent: The funding will be used to assist with the faculty's current research involving questions on obesity/type 2 diabetes using nutritional genomics approach. Nutritional genomics is a new interdisciplinary research area with potentials to resolve questions in chronic diseases diabetes, cardiovascular disease, and cancer. Research is also being completed involving cell signaling and gen expression regulated by nutritional factors.

Benefit for the State or Institution: Funding enables faculty to compete for grants and research projects which includes the development of peer-reviewed publications, travel, and the opportunity to attend research conferences.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$283
Capital Expenditures	$0
Total	**$283**

Entry: 13

Title: Research Support - College of Agriculture

Description: To support research and proposal development involving new faculty.

Purpose/Intent: The funding will be used to assist with the faculty's current research involving the analysis of agroecosystems, natural resource management decision making, and the development of teaching and support tools for agricultural producers, students and educators, or interest policy makers.

Benefit for the State or Institution: Funding enables faculty to compete for grants and research projects which includes the development of peer-reviewed publications, travel, and the opportunity to attend research conferences.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$7,750
Operating Expenses	$9,045
Capital Expenditures	$0
Total	**$16,795**

Entry: 14

Title: Faculty Start Up Funds - Mechanical and Industrial Engineering

Description: The funds were used to assist with the development of porous conducting polymers as a binder to improve energy density, specific power and cycle life of Li-ion batteries. Also funds were utilized for the simulation of a solar-thermal adsorption cooling system in hot and humid climates.

Purpose/Intent: The funds were designated to help assist with research in the energy area. Specifically, for the PI, it was to

(i) develop a multifunctional binder that is conductive and mechanically robust, and has an optimal porous structure to improve the energy density, specific power and cycle life of Li-ion batteries and

(ii) to study the feasibility of the solar-thermal adsorption cooling technology in hot & humid climates (i.e., Kingsville, Texas).

Benefit for the State or Institution: The study funded by this grant will have remarkable societal benefits. Improving the energy density and degradation of Li-ion batteries will reduce costs associated with battery recycling and manufacturing resulting in economic benefits. Electrification of the transportation sector will mitigate health and climate problems associated with emissions. Also, implementation of grid-scale energy storage technologies will accelerate integration of renewables into the grid, resulting in environmental and social benefits. This project would also facilitate the integration and management of renewables to the grid in Texas by lowering the costs associated with the battery energy storage. The project on solar-thermal cooling technologies can help reducing the building energy use in sunny parts of Texas where there is abundant sunshine available throughout the year.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$18,651
Capital Expenditures	$0
Total	**$18,651**

Entry: 15

Title: Innovative Improvement of Engineering Properties of Expansive Soils with Micro- and Nano-Particles and Characterization of their Micro-structures

Description: One of the key concerns in civil engineering has been expansive soils and their detrimental impacts on infrastructure; heaving and collapsing of soils, which may lead to severe structural damage to residences, buildings, pavements, etc. In the United States alone, damage due to expansive soil is estimated to $15 billion per year. Conventional approach to controlling expansive soils is a chemical treatment with cementitious materials such as cement, lime, and fly ash; i.e., mixing problematic soils with the cementitious materials. Recently, advances in nanotechnology have presented new opportunities for civil engineering structures and have been exhibiting noticeable success with micro-/nano-particles, especially in reinforcing concrete structures, which suggests that reinforcement of expansive soils with such advanced materials will significantly increase the mechanical properties of the problematics soils, reducing their harmful effects.

Purpose/Intent: The goals of the proposed research are to identify the contribution of micro-/nano-particles to the strength enhancement of chemically treated soils and gain an insight into the fundamental mechanisms of the improved strength. Therefore, it would be advantageous to examine mechanical properties of expansive soils reinforced by micro-/nano-particles and investigate their micro-structures to gain better understanding of the fundamental mechanisms.

Benefit for the State or Institution: A new practice with these advanced materials based on the outcome of the proposed research will benefit society in several ways. Improved mechanical properties of expansive soils will diminish the dimension of foundations, extra reinforcement, and replacement of problematics soils, which will directly lead to significantly reduced construction costs, structural damage, insurance costs, and associated environmental issues.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,300
Capital Expenditures	$0
Total	**$2,300**

Entry: 16

Title: Institute of Architectural Engineering Heritage Development

Description: Created in 2013, the Institute of Architectural Engineering Heritage is growing, but has not yet reached the critical mass to be considered self-supporting. The Institute requires funds for student compensation, miscellaneous equipment, conference travel, and construction expenses.

Purpose/Intent: The Institute of Architectural Engineering Heritage is gaining statewide, national and international recognition. Increasing capabilities and the presentation of research will continue to expand recognition of the Institute. The funding will provide compensation for student researchers preparing submissions for third party review by the Department of the Interior, and publication by the Library of Congress. The funds will also be used for student travel to conferences for presentation of research, miscellaneous equipment, and materials for preparing research for presentation and display. Funds will also be used to remodel the facility to accommodate lab equipment, which will support research and the scholarly mission of the institute, donated to the Institute by members of the community.

Benefit for the State or Institution: The Institute of Architectural Engineering Heritage is gaining statewide, national and international recognition. Students and faculty will be able to attend more conferences in order to present and display research within this particular area. With the growth of this particular Institute, further grants and external funding should be expected in the future.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$4,112
Operating Expenses	$5,896
Capital Expenditures	$0
Total	**$10,008**

Entry: 17

Title: Studies on DNA Damage Repair Pathways in Human Neurons

Description: DNA is the genetic material and the maintenance of DNA integrity and is indispensable not only for the successful reproduction, but also for the proper function of an organism. In humans, the failure of DNA damage repair is closely linked with many diseases and syndromes including cancer. In addition, recent findings suggest that the DNA damage repair is essential for the maintenance of brain function and altered expression of DNA damage repair factors are frequently observed in the brain with neurodegenerative diseases including Alzheimer's disease. This research will assist with the development of some critical materials and techniques to investigate the mechanism of DNA damage repair in human neurons using iPSCs and iNs.

Purpose/Intent: The intent is the identification of DNA repair genes that are expressed in human neurons, construction of DNA damage repair substrates, and optimization for iPSC and in culture.

Benefit for the State or Institution: Student researchers will have various opportunities for scientific discussion and professional networking through regular participation in individual discussions with the principal investigator and group meetings with many other researchers. They will also regularly present their ideas and work progress to other scientists during lab meetings. Students with successful research experience will most likely be motivated and delve into a research program at the graduate level. In addition, students with hands-on experience in the research will have advantages when they apply for a graduate program.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$784
Operating Expenses	$3,996
Capital Expenditures	$0
Total	**$4,780**

Entry: 18

Title: Aneurysm Rupture Assessment Using a New Hemodynamics Parameter

Description: Previous studies showed that the major factor involved in the rupture process of a brain aneurysm is the interplay between hemodynamics forces and the vessel wall biology. Yet, hemodynamics studies have not elucidated which hemodynamics factors are mainly responsible for the rupture mechanism, but most of the studies concluded that complex and unstable blood flow patterns are the most common predictors of an aneurysm's rate of rupture. The main objective is to find a correlation of the newly reported flow complexity parameter and the rupture status.

Purpose/Intent: The intent is to analyze the new flow complexity parameter on a set of ten ruptured and ten un-ruptured cases of patient-specific brain aneurysm geometries. The outcome is to establish a threshold value that delineates between the ruptured and un-ruptured cases. This research will hopefully assist clinicians determine which aneurysms are likely to rupture based on the flow complexity value obtained on a single computational simulation on the brain aneurysm.

Benefit for the State or Institution: This project involved our students (undergraduate and graduate) that received training and an opportunity to learn new computational and mathematical techniques. They also have the chance to see how mathematics is used nowadays to solve medical and real life problems. Exposing students to this research opportunity will definitely change their attitude towards doing math for a benefit. An institution with motivated students is a successful institution; the student retention and graduation rates are higher when the student is involved in the learning process.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$8,731
Operating Expenses	$5,463
Capital Expenditures	$0
Total	**$14,194**

Entry: 19

Title: Evaluation of KCNQ Transgenic Reporter Lines for Neuronal and Cardiac Expression

Description: Previous approaches for studying regulatory elements or promoters of genes in Drosophila rely upon outdated technologies employing the random insertion of a gene promoter-GAL4 into the genome of flies. These methods are often fraught with leaky expression of a reporter gene, which indicates the expression pattern determined by the target promoter DNA. The proposed training will provide substantial training in molecular biological and basic laboratory techniques and will also serve as a catalyst for further research applications using this hybrid plasmid construct approach.

Purpose/Intent: The intent is to study the following:

(1) characterization of KCNQ-GAL4-pBID transgenic fly lines for KCNQ-specific expression patterns
(2) comparison of KCNQ-GAL4-pBID flies with in situ GAL4 insertion into the native KCNQ gene,
(3) analysis of KCNQ expression in a senseless mutant background,
(4) analysis of KCNQ expression in a pannier mutant background.

This research will engage undergraduate students in a viable research project that will result in technical training, academic enhancement and exposure to STEM fields and provide students the opportunity to complete a research project that will result in at least one publication in a scientific journal.

Benefit for the State or Institution: The students participating will be coauthors in at least one publication that is based upon the final results of this project. The inclusion of undergraduates in this aspect will further enhance the commitment to undergraduate research and participation.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,982
Capital Expenditures	$0
Total	**$1,982**

Entry: 20

Title: Synthesis of New Iron Catalysts for Biomimetic Asymmetric Expoxidations of Alkenes

Description: This project focuses on the development and study of new types of chiral iron catalysts for asymmetric oxidation reactions. The funding will help with the current research involving the synthesis of a new class of optically active iron catalysts containing a pentadentate ligand. This is to be studied specifically in asymmetric alkene epoxidation reactions in which hydrogen peroxide or air will be employed as the oxidant.

Purpose/Intent: The objective is the synthesis of an optically active iron catalyst. In case of the chiral ligand-iron complex, single crystals will be grown and submitted for X-Ray diffraction analysis at Texas A&M University-College Station.

Benefit for the State or Institution: This study will be completed at the Department of Chemistry at Texas A&M University, which greatly supports the research involving undergraduate students and the supplies for that support. The results will be published in a peer-reviewed journal (Synthesis) and be presented at the ACS National meeting.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$1,830
Operating Expenses	$3,170
Capital Expenditures	$0
Total	**$5,000**

Entry: 21

Title: A Novel Automatic Power Factor Correction Using Automated Capacitor Banks

Description: The power factor of power supplied to the electric loads in AC power systems such as transmission networks and residential/commercial/industrial buildings has become one of the key issues due to the widespread use of inductive loads such as induction motors, AC/DC drives, welding machines, and arc furnaces. Power factor correction (PFC) is a technique of increasing energy efficiency and stability of AC power systems by minimizing the undesirable effects of reactive power.

Purpose/Intent: The objective of the proposed project is to develop a novel automatic Power factor correction (PFC) using automated capacitor banks. Undergraduate students will have an experience in state-of-the-art Power factor correction (PFC) research by participating in all aspects of the research activities.

Benefit for the State or Institution: University students will learn: current PFC methods and fundamentals of power electronics; how to design of PFC circuits and control methods; and programming languages such as C for controlling a microcontroller and MATLAB/Simulink for a simulation study.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$978
Capital Expenditures	$0
Total	**$978**

Entry: 22

Title: Microfluidic Flow Generation Using an AC Electric Field and Laser Illumination

Description: This study involves an emerging technology call opto-electrokinetics that can generate fluid motion and other phenomena using an AC electric field (generated from a simple electrode micro device and optical illumination laser beam) is of great interest in microfluidics. One of the opto-electrokinetic techniques is rapid electro kinetic patterning (REP) that has been developed to control the arrangement of micro-and nano-sized particles. REP is a hybrid opto-electrokinetic technique which combines the benefits of optical trapping with dielectrophoresis and other AC electro kinetic techniques. Therefore, further investigation of the underlying mechanism. especially the interaction between optical illumination and a non-uniform AC electric field, is required to increase the feasibility of this technique for transporting, mixing, controlling, and directing fluids.

Purpose/Intent: The objective is to investigate a micro flow that is opto-electrokinetically generated. The undergraduate students will

1) be trained on setting up and conducting a basic microfluidic experiment using a scientific high-speed camera with an inverted microscope system,
2) get hands-on training on micro flow generation using optical illumination and a non-uniform AC electric field, and
3) learn how to analyze experimental data via a technique called micron-resolution particle image velocimetry using MATLAB and other software.

Benefit for the State or Institution: Newly obtained experimental results will be presented at several conferences: ASME International Mechanical Engineering Congress and Exposition (IMECE), proceedings of the International Conference on Miniaturized Systems for Chemistry and Life Sciences, annual meeting of the APS Division of Fluid Dynamics, and the International Symposium on Particle Image Velocimetry.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,427
Capital Expenditures	$0
Total	**$2,427**

Entry: 23

Title: The Image in the Mirror and the Number on the Scale: The Intersection of Race, Socioeconomic Status, and Gender in Weight Perception and Health

Description: Body weight, especially overweight/obesity, has been considered to be a major public health concern in the United States. A large body of literature has documented the health effects of body weight and its social distribution primarily across gender, socioeconomic status, and race/ethnicity. The project argues that intersectionality approach to the study of weight and weight perception on health as a key to designing effective public health policies and initiatives. The proposed projects will touch upon the necessary social, clinical and public health policy implications.

Purpose/Intent: The objective of the proposed project is to investigate the effects of gender, race, and socioeconomic status (SES) on perceptions of body weight among adults in the U.S. and its psychological and physical health. Specific research questions include:

(1) whether the perceptions of body weight differs by gender, race, and socioeconomic status net of body weight,
(2) if so, to what extent the perceptions of body weight account for health inequality, and
(3) how weight and the perceptions of body weight intersect each other and shape health status.

Benefit for the State or Institution: Students will present at the Southwestern Social Science Annual Conference, Texas A&M University Pathways, and Javelina undergraduate research symposium. If successful, the outcomes of this project will also be submitted to the peer review social scientific journals.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,820
Capital Expenditures	$0
Total	**$1,820**

Entry: 24

Title: Microalgal Triglyceride Production in Brackish Water Conditions for Biodiesel

Description: Natural oils (triglycerides) derived from plants or algae are an important renewable resource that can be transformed into biodiesel transportation fuel by transesterification. Biodiesel production results in no net positive emission of carbon dioxide to the atmosphere when combusted. Algal-derived oils have 100-fold greater production yields than plant oils, per unit of biomass. However, culturing of algal biomass for biodiesel is a water-intensive process, typically requiring 10 to 100 gallons of water per pound of oil obtained, depending in part on the reactor configuration chosen, namely open pond versus enclosed photo bioreactor. The use of non-potable water resources, such as oil produced waters or other brackish water sources, to support microalgae-based biodiesel represents a sustainable approach well suited to the water-constrained region of South Texas.

Purpose/Intent: The objective of this research effort will be to develop the capability to culture brackish-tolerant microalgae strains in nutrient-amended brackish groundwater or oil-produced water in the biochemical engineering laboratory, to assess the triglyceride levels produced by the microalgae in these culture conditions, and to develop techniques and hardware to investigate open pond versus photo bioreactor microalgae culture processes.

Benefit for the State or Institution: There are many energy resources, both non-renewable and renewable, that are exploited in the State of Texas. Development of more renewable resources is important to meet the energy demand of the state's growing population, since our mineral-based energy resources are finite. Additionally, many areas of the state experience moderate to severe water constraints. The results of this research will serve to bolster means to develop new renewable energy sources, in particular liquid fuels for transportation, in a manner that does not further constrain valuable potable water resources.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$10,340
Operating Expenses	$4,186
Capital Expenditures	$0
Total	**$14,526**

Entry: 25

Title: Applications of Biochar in Environmental Biorediation

Description: Exponential population growth is a growing challenge that will increase the global demand for both food and bioenergy, increase the pressure on land and water resources, as well as their availability, and also influence the pattern of biomass production. Biochar is the carbon rich product obtained as a by-product of biomass pyrolysis. The main objective of this study is to evaluate and compare the characteristics of biochar obtained from different local parent materials (like citrus, peels, leaves and wood) and evaluate existing published studies that assess the application of biochar in soil improvement and environmental remediation. The expected results of this research summarize the main keystones of biochar applications, and define the research gaps and the major research to design and evaluate innovative materials and environmental systems that utilize biochar. This research will encourage RGV-Engineering Initiative's undergraduate students to become an active participant in climate, food security, and water and soil applied research, and will complement Texas A&M University-Kingsville's other departments that match the same research goals.

Purpose/Intent: The objectives are to evaluate and compare the characteristics of biochar obtained from different local parent materials (like citrus peels, leaves, and wood), and to review and evaluate existing published studies that assess the application of biochar in soil improvement and environmental remediation, waste management, climate change mitigation, energy production, and solar cell applications by using nanomaterials as a conductive layer and a nanostructure to allow more energy to be harvested.

Benefit for the State or Institution: Texas A&M University-Kingsville through RGV-Engineering Initiative (Kingsville-RGV) will be conducting educational and research activities that will provide opportunities for Kingsville-RGV Environmental and Chemical Engineering students to gain experience in producing biochar by using biomass pyrolysis and using the product in some applications like soil improvement, environmental remediation, energy harvesting (solar cells), and desalination and membrane technology. RGV-Engineering Initiative proposes to offer undergraduate research opportunities for undergraduate students studying Environmental and Chemical Engineering.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$500
Capital Expenditures	$0
Total	**$500**

Entry: 26

Title: Development of Advanced Cellular Assay to Detect Effects on Structural Neuronal Plasticity and Neurite Regeneration

Description: Promoting nerve regeneration in the central nervous system of humans is an important biomedical challenge, with implications for humans suffering from paralysis due to spinal cord injury, blindness from optic nerve damage, etc. Scientists have discovered several genes that encode proteins that facilitate nerve regeneration (the researcher's laboratory cloned one of these genes, which encodes the protein zRICH that promotes structural plasticity by enhancing the formation of new neurite branches). This research will include the use of advanced cell biology technologies with the pro-neuronal PC12 cells to develop a method to detect the effect of expressing proteins related to nerve regeneration on the ability of neurons to generate neurite branches (using the gene encoding zRICH as a model).

Purpose/Intent: The objectives of this project are: to use stable transfectant PC12 cells that express the zRICH protein fused to a fluorescent marker molecule and control cells expressing only to perform neuronal differentiation experiments and take photomicrographs of the neurons; and to test various morphometric analysis methods with the photomicrographs to optimize the detection of the effects of the zRICH protein on neuritogenesis.

Benefit for the State or Institution: This project is a good investment for the state and institution since a sensitive cellular method to detect effects on neuritogenesis would be a valuable tool to study genes involved in nerve regeneration (and ultimately to advanced therapies to enhance regeneration in humans). The results will enhance the possibility of receiving sustained federal support from the National Institute of Health. Additionally, the student involved in the project will be provided with experience in bioinformatics and cellular biology technologies, skills that are applicable for biotechnology and biomedical research in academic and industrial settings. The student will also be able to develop written and oral communication skills by presenting the results at a scientific meeting.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$7,500
Operating Expenses	$0
Capital Expenditures	$0
Total	**$7,500**

Entry: 27

Title: Develop an Imaging Technique to Detect Subtle Surface Damages in Polymers

Description: The ability to retain surface quality, both from functionality and from aesthetics points of view, is considered as one of the critical property attributes in selecting polymers for many applications, such as in automotive, electronics, optics, household, packaging, and oil and gas pipeline coating applications. Despite some distinctive differences, "scratch and mar" are often used synonymously in the industries to describe the surface damages due to sliding indentation of a rigid asperity under the application of a prescribed normal load. In actuality, "scratch" can be considered as a high contact stress scenario which causes different distinctive surface damage features whereas "mar" can be viewed as a low contact stress scenario involving subtle damages on the surface. These subtle damages (mar) can become very prominent depending on the light interaction with the damages, and, thus, can reduce the product value significantly.

Purpose/Intent: The objectives of this research are to:

(1) study the light interaction with surface damages for in-depth understanding of the remarkable visibility of subtle surface damages (mar) in certain incident angle(s) and almost no visibility in others;
(2) find the incident angle(s) that makes the mar damage most visible; and
(3) develop an imaging technique to capture the mar in its most visible form.

Benefit for the State or Institution: The student working on this project will learn about different surface damages in polymers, physics of light interaction, and imaging techniques. Also, the student will have hands-on experience and be able to present the data at technical meetings, which would develop technical skills, and critical and independent thinking.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,370
Capital Expenditures	$0
Total	**$1,370**

Entry: 28

Title: Using Drainage Basin Morphometries to Assess Active Tectonics in South Central Tibet

Description: Rifts are regions on the crust, the upper layer of the Earth, that are produced from tensional stresses resulting from thinning (mechanical) or by thermal anomalies reaching the shallow parts of the crust from deeper regions (>35 km for "average" crust). The Lopukangri rift belongs to a region where at least 6 adjacent rifts are conspicuously curvy suggesting an oblique extensional mechanism produced them during this most recent (<15 million years) regional extension phase in central Tibet. In order to test ideas on the extension mechanism it was proposed to assess active extension via basin morphometries. The behavior of streams and basins within the rifts will be analyzed by calculating basin morphometries using digital topography. In order to characterize the current tectonic activity (neotectonics) of the south-central Tibet area, various morphometric parameters will be calculated for streams and basins using digital elevation models (DEMs), and compare the values with structure maps and analogs.

Purpose/Intent: The objectives of this research project are to calculate basin morphometries through topographic analysis using high resolution satellite data, and evaluate the magnitude of extension.

Benefit for the State or Institution: The results of this project will be disseminated in oral and poster presentations at a meeting of the Geological Society of America along with in-house University symposiums. The abstracts will also be published in the proceedings of the national meeting. This research has a high potential for publication involving peer-review journals.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$1,720
Operating Expenses	$0
Capital Expenditures	$0
Total	**$1,720**

Entry: 29

Title: Designing New Flame-Resistant Materials Combining ROMP and Greene, Metal-Free Thio-Bromo "Click" Reactions

Description: The research will study the use of a transition metal-free, thio-bromo "click" reaction for the preparation of novel, fire-resistant materials. The development of polymeric materials that can resist and extinguish flames is a very important endeavor in polymer science. Often, polymers can be instilled with the ability to resist fire through the addition of halogen atoms or phosphoesters. This project represents the first use of a metal-free click reaction toward the preparation of flame resistant materials utilizing a post-polymerization modification route. This is significant considering ROMP has only been used a few times for the synthesis of flame-resistant polymers. All of these rely on the preparation of specialized monomers and require multiple steps for synthesis and purifications.

Purpose/Intent: The objects of this project are to:

(1) provide significant evidence that these new polymers can be efficiently prepared on large scales,
(2) show that they can be used as a novel-flame-resistant material, and
(3) measure their flame resistant-self-extinguishing properties.

Benefit for the State or Institution: This is a good investment for the institution, because this interdisciplinary project will serve as a useful platform for training undergraduate and graduate students in organic chemistry, polymer synthesis, and materials science. These are all fields in which the level of Hispanic participation is incredibly low. Considering our status as a Hispanic Serving Institution, this will help to broaden the participation of such under-represented groups. The chances of publications in peer-reviewed journals are high. Due to the interdisciplinary approach of this project, it has high chances of winning external funding through government and private agencies.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$1,668
Operating Expenses	$4,195
Capital Expenditures	$0
Total	**$5,863**

Entry: 30

Title: Role of Pyruvate Kinase Musculus (PKM) on Drosophila Melanogaster Courtship Behavior

Description: The overarching goal of this funding is to use the courtship circuit in Drosophila melanogaster to evaluate the molecular mechanisms of learning.

Purpose/Intent: The purpose for the funds is to study behavioral assay: courtship suppression in Drosophila, behavioral evaluation of the consequences of Pyruvate Kinase Musculus (PKM), and histochemical evaluation of (PKM) in Drosophila brains. Students will interact with each study by experimentation and dissection of the Drosophila flies.

Benefit for the State or Institution: The mechanisms underlying memory storage in the brain have been a fundamental and unanswered question in science. There are many genes that have been shown to be involved in memory. Making this research a valuable study for the institution to support and the state.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$697
Capital Expenditures	$0
Total	**$697**

Entry: 31

Title: Arts and Humanities Research Group

Description: The Arts and Humanities Research Group is a multidisciplinary group of faculty members at Texas A&M University-Kingsville. The committee membership consists of representation from Art, Music, History, English, Spanish and Philosophy. The goal of the committee is to facilitate the growth of creative and research activities by building a supportive environment for faculty, facilitating shared communication, and promoting collaborative endeavors including team-based research and funding opportunities.

Purpose/Intent: The purpose is to assist faculty with the submission of research proposals and the potential to secure external funding that might result in significant future publications within the broad field of the humanities and arts. All awards will be based on demonstrated research quality and potential for securing external funding or future publications or products.

Benefit for the State or Institution: The support of research for individual faculty members increases their publication record and enhances the reputation of the state and the University. The efforts that will consolidate research interests and activities increases the ability to receive larger grants for the University. Also since the Arts and Humanities record and reflect upon the creative, intellectual, social, and historical records of people, it is important for the state to support the research of arts and humanities faculty and the extension of humanistic knowledge.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$750
Operating Expenses	$13,417
Capital Expenditures	$0
Total	**$14,167**

Entry: 32

Title: Eagle Ford Center for Research, Education and Outreach

Description: The funds will be used to support research activities under the Eagle Ford Center for Research, Education, and Outreach.

Purpose/Intent: The purpose is to help support various research start-up activities associated with the Eagle Ford Center for Research, Education and Outreach (EFCREO) in the College of Engineering at Texas A&M University-Kingsville.

Benefit for the State or Institution: The College of Engineering at Texas A&M University-Kingsville has made tremendous progress over the past 20 years in building research capacity and providing education designed to meet industry needs. The department currently offers seven engineering programs (including a new PhD emphasis) with more than 3100 students. EFCREO is aligned with existing research and educational capacities within the College of Engineering and throughout the University campus. Research endeavors are aimed at providing technical assistance to solve problems and developing innovative advancements in the energy sector.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$7,180
Operating Expenses	$77,442
Capital Expenditures	$0
Total	**$84,622**

Entry: 33

Title: Research Support - Bilingual and Language Education

Description: The funding will be used to create research opportunities for Bilingual Education Faculty.

Purpose/Intent: The purpose it to create and carry out research projects in school districts in South Texas, and to disseminate research findings in state, national, and international professional conferences.

- Conduct fieldwork in a local School District.
- Data collection and analysis.
- Dissemination of results (professional conferences).

Benefit for the State or Institution: The research will enable the fostering of research involving Latino K-12 classrooms (focusing on English language learners), and developing partnerships with local school districts and in the South Texas regions.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$44
Capital Expenditures	$0
Total	**$44**

Entry: 34

Title: Disaster and Resource Allocation: A Holistic Optimization Modeling Framework

Description: The numbers of natural disasters and the people affected by disasters have increased over recent years. Due to high uncertainty of disasters and the associated geographical, social, economic, and developmental conditions, resource allocation needs not only planning but also improvisation. This research develops facility location and resource allocation models with endogenous resilience for both normal and disaster conditions, and infrastructure network disruption and recovery model in post-disaster stage. The new models and algorithms will provide fundamental insights into design and operation of resource allocation in response to disasters.

Purpose/Intent: The purpose it to develop a series of optimization models for resilient resource allocation in the face of disasters across disaster mitigation, preparedness, relief, and recovery stages. The models using historical or empirical data will be validated. Challenging extensions investigate game-theoretic aspects of resource allocation using principal agent-based models. The ultimate goal of the project is to generate new knowledge of disaster resource allocation and management, and improve the resilience of community in the face of disasters.

Benefit for the State or Institution: The research involving disaster management has a huge impact to the society and human beings. The holistic perspective and innovative methodologies for resource allocation being proposed in this project will generate new insights that can be used by decision makers and researchers in order to decrease the vulnerability and loss from disaster and increase the resilience of the community. This project will also lead to several potential external grant proposals, submission of several journals/conference papers, and an advised master science student thesis.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$176
Capital Expenditures	$0
Total	**$176**

Entry: 35

Title: Research Support - College of Engineering

Description: The College of Engineering RDF funds have been used college wide for research and development activities through various types of supports including seed funds and laboratory upgrades/research equipment support. It was also utilized towards the installation and training for specific research equipment.

Purpose/Intent: The purpose of activities is to enhance the College of Engineering research capacity, increase the department's faculty research productivity, foster research collaboration among faculty members at Texas A&M University-Kingsville, and to provide student access to cutting edge research. The funding allowed faculty to travel in order to build collaborations with two Princeton professors. It enabled the faculty of the Civil & Architectural Engineering department to receive the necessary training and installation for current research projects.

Benefit for the State or Institution: The research activities involved with this funding enhances the University's research capacity, fosters research collaboration among faculty member at Texas A&M University-Kingsville, and provides student access to cutting-edge research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$12,924
Capital Expenditures	$0
Total	**$12,924**

Entry: 36

Title: Research Support - College of Engineering

Description: These funds were used to assist new researchers as well as prioritized college internal research projects within the College of Engineering.

Purpose/Intent: The purpose of activities is to provide funding for the collection of preliminary data, analysis, and results to help establish research agendas and for use in external research proposals.

Benefit for the State or Institution: This funding promotes and facilitates research capacity building for the entire University, Colleges, Departments, and individual faculty.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$99,528
Operating Expenses	$216,198
Capital Expenditures	$139,116
Total	**$454,842**

Entry: 37

Title: Research Support - Office of Student Access

Description: The funds were utilized to advance undergraduate research by tracking and gathering student's information with the assistance of consultants and support staff to further develop active undergraduate research. Assisting with the developing and implementing of overall strategic plans, and preparation of budgets. The support staff assists with the development and oversight of undergraduate research programs and their participation with other departments for the University.

Purpose/Intent: The purpose of the funds was to help advance the undergraduate research of sponsorships with conferences, tracking, evaluating, and gathering more research sponsored programs for the University research. It helped assist with the operation of the University's dual credit programs, including soliciting schools, establishing dual credit agreements, recruiting students, facilitating admissions and high grade conversions, and served as a liaison to partnering schools.

Benefit for the State or Institution: Students that work with a professor on his/her research, or perhaps are just interested in furthering their knowledge in a certain area are much more likely to finish their bachelor's degree, go on to graduate school, and take part in high impact positions.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$15,807
Operating Expenses	$8,497
Capital Expenditures	$0
Total	**$24,304**

Entry: 38

Title: The Impact of Foliar Nutrient Sprays on Asian Citrus Psyllid Development and Population Densities

Description: The funding will assist in promoting citrus tree health and reducing the impact of citrus greening disease caused by Candidatus Liberibacter asiaticus vectored by the Asian citms psyllid (ACP). It will also assist in the evaluation of the impact of foliar nutritional sprays on citrus tree health and defense mechanisms aimed at reducing psyllid population densities and infestations. Silica and calcium are two nutrients that have been reported to be negatively correlated with ACP densities on citrus, but these nutrients are in low concentration in juvenile tissue where psyllid preferentially feed and reproduce. The goal is to increase Si and Ca levels via foliar applications in young tissue and study their deterrence effects on ACP colonization of citrus trees.

Purpose/Intent: The purpose of the project is to determine the effect of Ca and Si foliar sprays alone or in combination on the physico-chemical parameters of citrus flush shoots, their suitability for ACP colonization for feeding and development, and subsequent impacts on overall tree health, fruit yield, and quality.

Benefit for the State or Institution: The immediate outcome of this study will be a better understanding of how Ca and Si affect plant health and subsequently ACP densities. It is also expected that information will be obtained on how Ca and Si affect the nutrient composition and leaf characteristics of young flush shoots. These results will provide preliminary data which may help obtain funding from granting agencies such as USDA. This research also has the potential to reach, and be implemented by the majority of area citrus producers who manage the entirety of the 25,000 acres of South Texas citrus. It could also benefit homeowners, dooryard, and organic growers because of its potential to lower ACP populations with sustainable practices. Overall, the long-term benefits will be promoting citrus health while deterring the infestation of an economically important insect vector. All of these outcomes have the potential to benefit not only the state citrus production, but the reputation of Texas A&M University-Kingsville and the Citrus Center as a leader in citrus research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,160
Capital Expenditures	$0
Total	**$2,160**

Entry: 39

Title: Electrical Conduction and Breakdown Phenomena in High Electric Field Stressed Materials

Description: The goal of the research is to further understand the mechanisms and characteristics of high field conduction and breakdown in novel nano-engineered materials for electrical insulation. Guided by numerical simulation results, the researcher will prepare and test new materials and conduct measurements of the physical processes in the material under high electric field. The research program will also provide research training and mentoring to undergraduate and graduate students. A new graduate-level course on the subject will be developed as a supplement to the current engineering curriculum.

Purpose/Intent: The purpose of this funding is to help assist in with research related to the further understanding of high field conduction for electrical insulation. The funds will also help assist with constructing the experimental system within the engineering department's lab.

Benefit for the State or Institution: The funding will help establish a strong research group (probably the only one in Texas) in electrical insulation over the next few years, since experimental results get published in high-profile journals more easily. This will also make our newly-launched PhD program in sustainable energy more attractive. In addition, the research will attempt to optimize materials with substantial enhancement of electrical breakdown strength, which could significantly improve the reliability and performance of equipment in next-generation electric power systems in Texas and across the country.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$5,743
Capital Expenditures	$11,000
Total	**$16,743**

Entry: 40

Title: The Effect of Instructional Use of an iPad and Music on Challenging Behavior and Academic Engagement for Two Students with Autism

Description: During the late 60s and into the 70s, a number of longitudinal studies were conducted where high quality enrichment was provided to disadvantaged children in daycare or preschool settings with the purpose of preventing mild mental retardation. Children of undereducated and poor families are generally at risk for delayed intellectual development- which ultimately leads to failure in school. This funding will help towards the study and research involving the instruction of autistic students.

Purpose/Intent: The purpose of this funding is to investigate the effects of delivering academic instruction through music - iPad versus traditional materials (paper/pencil and flashcards) - on the occurrence of challenging and academic engagement behavior for children with Autism Spectrum Disorder (ASD).

Benefit for the State or Institution: During the research project the University student involved will be expected to be able to read, write, revise, and critique the writing done within the study. They will also be trained to conduct interviews, evaluate qualitative data, review content analysis and discuss methods of research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$270
Operating Expenses	$0
Capital Expenditures	$0
Total	**$270**

Entry: 41

Title: The Regulation of Gene Expression via Epigenetic Mechanisms During Onset of Obesity, Type 2 Diabetes

Description: Environmental factors including diets and lifestyles may play an important role in development of obesity/type 2 diabetes by influencing the epigenetic modifications to the human genome. It has been demonstrated recently that circulating fatty acids are associated with adiposity, insulin resistance, and muscle cell death. Now, the key question is what actual factors in adipocytes and muscle cells induced by fatty acids are mediating adiposity, insulin resistance, and muscle cell death. It is very likely each of the problems may be a result of regulation of more than one gene by fatty acids. The research project will be focused to study the epigenetic mechanisms involved in gene regulation by fatty acids.

Purpose/Intent: The purpose of this funding to help support the students involved with the research related to the study of the environmental factors related to diets and lifestyles that play an important role in the development of obesity/type 2 diabetes.

Benefit for the State or Institution: This project enabled the institution to continue the assistance and training for the students involved with this particular research endeavor.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$7,168
Operating Expenses	$0
Capital Expenditures	$0
Total	**$7,168**

Entry: 42

Title: Disease Surveillance of Wild Turkeys in South Texas

Description: The purpose of this project is to conduct disease surveillance of South Texas wild turkey populations. A disease surveillance study has not been conducted for wild turkeys in South Texas for over 30 years, and the two studies that have been conducted have been limited in scope having been restricted to a couple of counties. At least one novel disease exposure has been reported for wild turkeys in the Edwards Plateau, and since wild turkeys are very mobile using creek and river drainages extensively, the chances of transmission between populations is possible. Additionally, since wild turkey translocations (trapping and moving birds) still occur in Texas, transmission of diseases can occur via this route. The objective of the research project is to determine the prevalence of wild turkey diseases in wild turkey populations in South Texas. A secondary objective is to determine if any of the diseases we identify could pose a threat to native wild turkey populations on releases sites where efforts are underway to re-establish populations. A third objective is to provide updated disease surveillance results to Texas Parks & Wildlife officials to facilitate decision making with regard to the potential to spread diseases from wild turkeys translocated around the State, because translocation operations will likely increase in the future as wild turkey populations continue to decline in selected areas of Texas. A fourth objective is to provide scientific training to undergraduate students interested in a career in wildlife management or veterinary medicine.

Purpose/Intent: The purpose of this project is to conduct disease surveillance of South Texas wild turkey populations to determine the prevalence of wild turkey disease in South Texas as well as determine if these diseases pose a threat to wild turkey populations that would limit efforts to bolster existing populations and re-establish new populations via translocation.

Benefit for the State or Institution: Texas Parks & Wildlife Department periodically engages in the translocation of wild turkeys to bolster or re-establish new wild turkey populations. This research will provide information about whether or not it is safe to do so relative to wild turkeys translocated from South Texas to some other location in the State. The project may also identify any novel diseases that could pose a threat to wild turkey population in South Texas as well as the rest of the State. Finally, this project will provide an opportunity for an undergraduate student to gain hands-on training in a scientific study related to wildlife management and veterinary medicine.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,972
Capital Expenditures	$0
Total	**$2,972**

Entry: 43

Title: The Influence of Parenting on Gender Differences in Moral Decision Making

Description: Carol Gilligan's (2003) critique of Lawrence Kohlberg's theory of moral reasoning (1981) suggests that there are two modes of moral reasoning, justice and care. The justice orientation is concerned with principles of fairness and equity while the care orientation is concerned with maintaining relationships, responding to the needs of others, and a responsibility to not hurt someone. Men and women have been shown to differ in their orientation.

Purpose/Intent: The purpose of this research is to determine if being a father and/or grandfather will lead men to score higher than non-fathers/grandfathers on care-based moral judgments and lower on justice based judgments, depending on the moral issue being judged. The student will demonstrate an understanding of survey research methods, create an instrument to measure moral decision making, learn how to operate Event Related Potential (ERP) equipment measuring emotional responses to stimuli and to interpret the data collected by the ERP equipment, select and use appropriate statistical techniques to analyze the data, write a clear and concise report of the research conducted that can be submitted for publication, and prepare a presentation of the research project for a professional conference.

Benefit for the State or Institution: The participants involved with this particular research will be recruited from Texas A&M University-Kingsville faculty and staff as well as service clubs in Kingsville. The students involved will also gain from this research experience.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$1,130
Operating Expenses	$0
Capital Expenditures	$0
Total	**$1,130**

Entry: 44

Title: Design and Construction of a Gal4-pBID Transgene Expression Construct for Analysis of Gene Expression

Description: Current technologies utilized to express transgenes in Drosophila melanogaster (fruit fly) have rapidly evolved to incorporate the use of bacteriophage-based landing pad technologies, which facilitate the insertion of foreign genes into specific genomic loci. This newer technology has also incorporated the use of insulators, which block the external influence of nearby enhancer elements or regulatory sequences. To date, no plasmid constructs are available for the expression and characterization of gene promoter regulatory elements using such landing-pad technologies.

Purpose/Intent: The purpose to complete the following: amplification and isolation of MCS GAL4 complementary DNA; construction of MCS/GAL4-pBID expression construct; insertion of KCNQ potassium channel promoter fragments into MCS/GAL4-pBID plasmid; and characterization of transgenic fly lines for KCNQ-specific expression patterns.

Benefit for the State or Institution: The proposed study will provide substantial training in molecular biological and basic laboratory techniques. It will also serve as a catalyst for further research applications that will be using this hybrid plasmid construct approach.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$5
Capital Expenditures	$0
Total	**$5**

Entry: 45

Title: Sporting Event Management, Security, and Policy Research

Description: Presentation of research at scholarly conferences for research development.

Purpose/Intent: The purpose was to assist with scholarly presentations of research conducted at Texas A&M University-Kingsville. Completed research was presented at national/international scholarly societies to disseminate findings and to receive feedback on current projects.

Benefit for the State or Institution: The research presented served as a foundation for publications which are in development for submission or have been submitted to peer-review journals during the academic year. One publication that was presented at NASSM was accepted for publication in a peer-reviewed public health journal (Journal of Primary Prevention) and is in press.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,491
Capital Expenditures	$0
Total	**$2,491**

Entry: 46

Title: Conducting Research and Presenting at Conferences

Description: The faculty member was assisted with their professional presentations and research publications. It supported the travel costs for professional presentations in the fields of counseling and education, conducting of research for publications, and the payment for publications fees in statewide, national, and international levels.

Purpose/Intent: The purpose was to help assist the new faculty member with research studies, the publication of more articles, and the presentations at more professional conferences to bring the good reputation of CMHC (Clinical Mental Health Counseling) program and Texas A&M University-Kingsville to more scholars, the nation, and international researchers.

Benefit for the State or Institution: The presentations at professional conferences and publications at peer reviewed journals will contribute positive impacts to the fields of counseling, education, and research. The publications and presentations will further bring a good reputation to the CMHC (Clinical Mental Health Counseling) program and Texas A&M University-Kingsville. Scholars, counselors, researchers, and communities will be benefited from the impact of the professional presentations and results of the research publications.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,916
Capital Expenditures	$0
Total	**$1,916**

Entry: 47

Title: Research Support - Bilingual and Language Education

Description: This research study analyzed the academic preparedness of English Language Learners (ELLs) educated in two bilingual education programs, Transitional Bilingual Education and Dual Language Education. The study is on the impact of dual language education on American College Test (ACT) performance for English Language Learners.

Purpose/Intent: The researcher involved will be presenting the stated researcher at national/international conferences where similar research is being presented in order to expand and study the particular methodology.

Benefit for the State or Institution: This project is a good investment for the University because through this research the University will have representation at national/international conferences.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$704
Capital Expenditures	$0
Total	**$704**

Entry: 48

Title: Geopressure Modeling to Optimize Production From Horizontal Fractured Wells in Unconventional Reservoirs

Description: This research will be involving the obtaining of formation properties through well logging techniques to estimate pore pressure. The emphasis will be on the use of the rigorous diffusivity equation describing the pore pressure behavior of a saturated porous media to model geopressure. Efficiency of hydraulic fractures created to optimize production is highly correlated to the type of rock, "in-situ" stresses, and fluids contained within the system. For this reason, proper characterization of the interaction between "in- situ" fluids contained in rock formations with hydraulic fracturing fluids is also under the scope of the research.

Purpose/Intent: The researcher includes their own implemented methodology to estimate formation geopressure from well logs. The singularity of this research rests on the basis of finding a set of theoretical equations that can represent variations of pore pressure with depth without the limitations imposed by traditional empirical approximations. Results obtained using this novel technique have promising effectiveness in estimating pore pressure in unconventional scenarios such as unconventional Shale plays. Some conventional approaches being used currently in the oil and gas industry do not work in these scenarios. Application of new scenarios such as finding pore pressure distribution along the horizontal well section in a wellbore will be analyzed. This could be valuable for the oil industry to characterize oil and gas reservoirs more accurately. Validity of the application in horizontal wellbores is the main goal. In addition, some shale plays show a particular condition, it is known as secondary porosity associated to diagenesis, encountered often in naturally fractured formations.

Benefit for the State or Institution: Efficient development of Shale plays in the Unites States and in other parts of the world is intimately associated to two very important technologies: management of horizontal wells (drilling and production) and multistage hydraulic fracturing. These two technologies have made possible the current success of oil and gas exploration and production in unconventional Shale plays the United States Adequate combination of these technologies is a challenge and subject of research in the academy and the oil and gas industry. For these reasons, it is of transcendental importance the correct description of the reservoir to properly allocate horizontal wells and to distribute the hydraulic fractures in the horizontal section of the wellbore more efficiently. The hydraulic fracturing job have to be designed and executed accordingly to the reservoir characteristics and fluids contained in it. Therefore, the study of hydraulic fracturing fluids and their interaction with connate fluids is also important. In Texas, at least two huge Shale Plays have been recognized and both are under development. They are the Permian Basin in West Texas and Eagle Ford in Central and South Texas. Regionally, Eagle Ford Shale Play constitutes a natural resource that must be developed in a sustainable manner.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$8,460
Capital Expenditures	$0
Total	**$8,460**

Entry: 49

Title: Office of Research and Sponsored Programs

Description: To support the Office of Research and Sponsored Programs (ORSP) with proposal development, compliance, and post award staff as well as research reviewers.

Purpose/Intent: The staff of ORSP supports the University researchers by assisting with proposal development and monitoring compliance and financial requirements. The reviewers assess internal research proposals to determine eligible awardees.

Benefit for the State or Institution: Expansion of proposal development activities toward continued and increased research awards will allow further growth in the institutional, regional and statewide impact of our research programs. Expansion of programs also allows for further student research training and contributions toward workforce related and continued academic advancements. Successful internal research projects will be leveraged for the development of external grant proposals. The ORSP support staff provides the infrastructure to submit projects to external agencies and to manage the projects when funded.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$8,666
Capital Expenditures	$0
Total	**$8,666**

Entry: 50

Title: Measurement of PolyQ Degeneration Using Drosophila Courtship Rituals

Description: Using a very sensitive measure of the neural activity of a neural circuit, the study will quantitatively measure decrements in function due to the expression of an expanded poly-glutamine residue in the circuit that controls this behavior. This measure will be determined for multiple genes with poly-glutamine expansions.

Purpose/Intent: The ultimate purpose of this work is to identify modifiers of poly-glutamine diseases. This is to determine whether these multiple neurological diseases can be similarly modified, because they similarly have localized this region as creating a toxic protein in neurons.

Benefit for the State or Institution: This project can identify drug-able targets outside the range of the toxic protein. Assisting a population that is struggling through this harrowing disease is a highly significant use of funds. Any knowledge of the disease that helps this end goal - which this analysis does do - is a worthwhile endeavor.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$5,279
Operating Expenses	$1,921
Capital Expenditures	$0
Total	**$7,200**

Entry: 51

Title: Detection of Mass Movements and Quantification of Triggering Factors in Oaxaca, Mexico, via Remote Sensing Methods

Description: Mass movements occur on the surface of the Earth and can be characterized by the type of flow mechanism, amount and type of debris, and extent of damage. The goal of this project is to map mass movements using remote sensing in the vicinity of the rural mountainous region of Ixtlán, in northern Oaxaca, Mexico, to identify the extent of the damage zones and their distribution, and assess the stability of the slopes to further enhance risk maps for the area.

Purpose/Intent: This project will provide a detailed assessment of mass movements via remote sensing analyses, and an evaluation of seismicity, and precipitation data to quantify damage zones and enhance currently available risk maps.

Benefit for the State or Institution: This type of project enables the students involved to be a part of a large conference which exposes them to current research and network opportunities.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$271
Capital Expenditures	$0
Total	**$271**

Entry: 52

Title: Printed Resources in Support of Research

Description: Information and supplies were obtained to support research endeavors for the faculty member.

Purpose/Intent: To gain more knowledge regarding qualitative research methodology which is now being utilized in conducting current research.

Benefit for the State or Institution: The project was a good investment for the faculty involved in that it provided needed information to strengthen their skills in conducting qualitative research.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,942
Capital Expenditures	$0
Total	**$1,942**

Entry: 53

Title: Powering Wireless Sensor Nodes for Wind Turbine Condition Monitoring

Description: With increasing popularity of wind turbines as a main renewable energy sources, the significant need arises to monitor their health conditions remotely to improve their availability, safety, and reliability and to reduce the operation and maintenance costs. It would be ideal if the battery life time of these wireless sensor nodes could be extended with the use of a rechargeable battery and a form of on-site energy collection, so that that they would not need to be replaced as often or even at all. By developing an energy harvesting system which makes use of the vibrations present in a wind turbine, the battery life time can be tremendously lengthened and potentially reduce the cost of maintenance.

Purpose/Intent: This group is currently developing self-powered wireless sensor network-enabled cloud-based condition monitoring system for power and energy systems. Students will learn:

(1) alternative forms of energy generation and fundamentals of power electronics;
(2) how to design an energy harvesting circuit consisting of piezoelectric transducers and integrated circuits; and
(3) how to optimize the designed circuit through simulation software and ultimately determine if the energy harvester can output enough power to prolong battery life or run the sensor node partially - if not fully.

Benefit for the State or Institution: Undergraduate students will present their works at the Javelina Research Symposium and their senior design contest. If successful, the results of this research will be submitted to the IEEE Applied Power Electronics Conference and Exposition (APEC).

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,802
Capital Expenditures	$0
Total	**$1,802**

Entry: 54

Title: Research Support - College of Education

Description: These funds were used to assist new researchers as well as prioritized college internal research projects within the College of Arts and Sciences.

Purpose/Intent: To provide funding for the collection of preliminary data, analysis and results to help establish research agendas and for use in external research proposals.

Benefit for the State or Institution: This funding promotes and facilitates research capacity building for the entire University, Colleges, Departments, and individual faculty.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$16,789
Capital Expenditures	$0
Total	**$16,789**

Entry: 55

Title: Hybrid Energy: Solar Photovoltaic and Hydrogen Fuel Cells

Description: Photovoltaic cells or solar cells are defined as electric devices, which converts energy of light into direct electricity, spontaneously. One example is dye-sensitized nanocrystal cell, which is used to generate electrical current. In this PV device, the organic dye molecules were used to absorb sunlight, which excited the electrons from the ground state to excited state in the nanomaterials, such as doped-TiO2 nanoparticles. These excited electrons will flow from anode to cathode compartment and be collected to generate electricity. The photoelectric or photovoltaic (PV) effect caused certain materials to convert light energy into electrical energy at the atomic level. A PV or solar cell is the basic building block of a PV system. An individual PV cell is usually producing about 1 or 2 watts of power output. Connection of PV cells in parallel and/or series will boost their power and form larger units called modules. Even larger units, defined as arrays can be formed by connecting these modules. In this way, we can build PV systems, which are able to meet end demands of any electric power, either in small or large scale. A student will be trained to conduct research in the energy field to improve the energy conversion efficiency. The training will also include the writing of a scientific manuscript and presentation of poster at the professional conference.

Purpose/Intent: This particular research aims to improve student hands-on experience, and thereby increase competitiveness of the Science Technology Engineering Mathematics (STEM) workforce in South Texas.

Benefit for the State or Institution: As a seek project, this hybrid energy research will facilitate professional development; thereby closing the twin gap of available qualified Science Technology Engineering Mathematics (STEM) workforce and minority students with degrees.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,303
Capital Expenditures	$0
Total	**$1,303**

Entry: 56

Title: Research Support - College of Arts and Sciences

Description: These funds were used to assist new researchers as well as prioritized college internal research projects within the College of Arts and Sciences.

Purpose/Intent: To provide funding for the collection of preliminary data, analysis and results to help establish research agendas and for use in external research proposals.

Benefit for the State or Institution: This funding promotes and facilitates research capacity building for the entire University, Colleges, Departments, and individual faculty.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$42,470
Capital Expenditures	$52,168
Total	**$94,638**

Entry: 57

Title: Examining the Components of Reading in Adults and Children

Description: Reading is a multi-faceted ability that is composed of many cognitive resources (e.g., vocabulary knowledge, working memory), cognitive processes (e.g., memory, inferencing, knowledge-based inferencing), and knowledge about strategies. The goal of this project is to use modern techniques/technology, such as structural equation modeling, and eye-tracking technology to determine which cognitive resources, cognitive processes, and strategies are most important to be a successful reader.

Purpose/Intent: To assist student research assistants with collecting and analyzing data that can be used for grant proposals and the generation of manuscripts.

Benefit for the State or Institution: This project exposes students (most likely minority students) to research. Also the resulting analyzed data may be used for future grant proposals that are submitted with the University.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$9,012
Operating Expenses	$0
Capital Expenditures	$0
Total	**$9,012**

Entry: 58

Title: Research Support - College of Engineering

Description: These funds were used to assist new researchers as well as prioritized college internal research projects within the College of Arts and Sciences.

Purpose/Intent: To provide funding for the collection of preliminary data, analysis and results to help establish research agendas and for use in external research proposals.

Benefit for the State or Institution: This funding promotes and facilitates research capacity building for the entire University, Colleges, Departments, and individual faculty.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$17,159
Operating Expenses	$31,130
Capital Expenditures	$0
Total	**$48,289**

Entry: 59

Title: Research Support - College of Agriculture

Description: These funds were used to assist new researchers as well as prioritized college internal research projects within the College of Arts and Sciences.

Purpose/Intent: To provide funding for the collection of preliminary data, analysis and results to help establish research agendas and for use in external research proposals.

Benefit for the State or Institution: This funding promotes and facilitates research capacity building for the entire University, Colleges, Departments, and individual faculty.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$39,999
Operating Expenses	$0
Capital Expenditures	$0
Total	**$39,999**

Entry: 60

Title: Research Support - Bilingual Education

Description: The funding will be used to create research opportunities for Bilingual Education Faculty.

Purpose/Intent: To provide funding for the collection of preliminary data, analysis and results to help establish research agendas and for use in external research proposals.

Benefit for the State or Institution: This funding promotes and facilitates research capacity building for the entire University, Colleges, Departments, and individual faculty.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$300
Capital Expenditures	$0
Total	**$300**

Entry: 61

Title: Research Support - University Research

Description: To support research initiatives in pursuit of expansion and institutional capacity development for the University. This includes seed funding for preliminary data and proposal development activities in support of individual faculty and multidisciplinary research groups.

Purpose/Intent: To provide funding to enable data collection, analysis and results to help establish faculty, program, department and college research agendas and for use in developing external research proposals.

Benefit for the State or Institution: This funding promotes and facilitates research capacity building for the entire University, throughout Colleges, Departments, and individual faculty.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$78,000
Operating Expenses	$22,658
Capital Expenditures	$13,280
Total	**$113,938**

Entry: 62

Title: Research Support - College of Business

Description: To support faculty research, proposal development, and the presentation of papers.

Purpose/Intent: To support proposal development for faculty within the College of Business. Several papers were presented at various conferences:

Harvard Seminar - Cambridge, MA;
AAA CTLA and annual meeting - San Diego, CA;
Southwest Finance Association - Little Rock, AK; and
IABE Conference - West Palm Beach, FL.

Benefit for the State or Institution: The project assisted the College of Business faculty of Texas A&M University-Kingsville in order that they might be able to travel to various conferences for presenting their various research topics.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$5,724
Capital Expenditures	$0
Total	**$5,724**

Entry: 63

Title: Research Support - Arts & Science Department

Description: To support research and proposal development.

Purpose/Intent: To support proposal development for tenured and tenured track faculty within the areas of Arts, Humanities, and Sciences. Research proposals were written with the potential to secure external funding, or for research that would result in significant future publications.

Benefit for the State or Institution: This project assisted with the following: provided experiences that helped to prepare students intellectually and creatively; supported faculty in research, scholarship, and creative activities; established resources for faculty to lead to successful grant submissions; enhanced research programs which are responsive to meeting the needs of our community and region; and increased the potential number of faculty publications and creative works achieving national recognition .

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$525
Operating Expenses	$30,353
Capital Expenditures	$9,665
Total	**$40,543**

Entry: 64

Title: Office of Research and Sponsored Programs

Description: Research Support.

Purpose/Intent: To support strategic initiatives in pursuit of research expansion and institutional capacity development for the Office of Research and Sponsored Programs. This includes proposal development activities in support of individual faculty and multidisciplinary research groups.

Benefit for the State or Institution: An expansion in strategic proposal development activities toward continued and increased research awards will allow further growth in the institutional, regional and statewide impact of our research programs. Expansion of programs also allows for further student research training and contributions toward workforce related and continued academic advancements.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$4,492
Operating Expenses	$626
Capital Expenditures	$0
Total	**$5,118**

Entry: 65

Title: Synthesis, Characterization, and Reactivity of New Cationic Rhodium(I) Complexes Containing P-O Ligands

Description: Rhodium(I) complexes are very efficient catalysts in homogeneous catalysis used in organic synthesis of feature manipulation engine (fme) chemicals, drug molecules, and agrochemicals. A cationic rhodium(I) complex of the type [Rh(Me2CO)(PPh3)2(C2H4)]PF6 was found to be active for the addition of amines to the C-C double bond at room temperature and normal pressure. However, only a very low turnover number was achieved due to fast deactivation of the catalysts. In order to prevent catalyst deactivation the ligand sphere will be modified. New rhodium(I) complexes containing P-O ligands will be prepared and characterized by Nuclear Magnetic Resonance (NMR) spectroscopy, elemental analysis, and X-ray crystal structure analysis. The new complexes will be tested for the addition of secondary amines to ethylene.

Purpose/Intent: Two types of P-O ligands known from literature will be used for the synthesis of cationic rhodium(I) ethylene complexes of the type [Rh(P-O)(PPh3)(C2H4)]PF6 analogous to the original catalyst described above. The P-O ligands are phosphinoketones (e.g. .PhC(O)CH2PPh2) and bisphosphine monoxides (e.g. Ph-2P(O)CH2PPh2). The new complexes will be studied toward their reactivity towards secondary amines. Using ethylene as a simple alkene substrate and secondary amines, the catalytic activity of the new complexes will be investigated.

Benefit for the State or Institution: The students will participate in state-of-the-art research. They will become introduced in modem laboratory techniques, such as inert gas techniques for the synthesis of air-sensitive organometallic compounds, Nuclear Magnetic Resonance (NMR) spectroscopy, and crystal growth for suitable samples for X-Ray diffraction analysis. The research results are planned to be presented at the National ACS Meeting in Philadelphia at the undergraduate poster session. The results of this project will also be considered for publication in a peer reviewed journal (Organometallics).

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,076
Capital Expenditures	$0
Total	**$1,076**

Texas A&M University-San Antonio

Entry: 1

Title: Student Research Support

Description: A symposium to promote and showcase student research.

Purpose/Intent: Experiential learning in the areas of research for the student population.

Benefit for the State or Institution: The institution has the opportunity of showcasing student research to the community. The top student from the symposium represents the University during the Undergraduate Research Day at the Texas State Capitol in Austin, TX.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$5,090
Capital Expenditures	$0
Total	**$5,090**

Texas A&M University-Texarkana

Entry: 1

Title: Research Compliance Officer

Description: Salary support for position responsible for administration of research.

Purpose/Intent: Funded portion of Research Compliance Officer salary.

Benefit for the State or Institution: The Research Compliance Officer oversees the university's compliance with various research rules and regulations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$12,976
Operating Expenses	$0
Capital Expenditures	$0
Total	**$12,976**

Texas Southern University

Entry: 1

Title: Research Enhancement and Compliance Programs

Description: Educational workshops on laboratory safety, use of animals, radiation and biohazardous substances in research for research community of TSU. State and federal agency reporting, registrations and assurance renewals. Research protocol submission, review and approval processes. Management and maintenance of research animal care facilities. Research Waste management.

Purpose/Intent: To ensure research compliance with state and federal governing agency guidelines policies and procedures. To showcase research activities at TSU. To enhance internal and external research collaborations and networking.

Benefit for the State or Institution: Ensures compliance with state guidelines policies and procedures. Ensures state employee safety. Promotes high quality research. Enhances extramural funding opportunities for the university.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$66,853
Operating Expenses	$2,018
Capital Expenditures	$0
Total	**$68,871**

Entry: 2

Title: Research Seed Grant Program

Description: Coordination of application submission, review and award processes for Seed Grants. Administer seed grant procurement processes. Conductance of procurement workshops for awardees.

Purpose/Intent: To provide research funds to faculty to conduct pilot studies via which the findings will serve as platforms to seek extramural funding.

Benefit for the State or Institution: Enhances extramural funding opportunities for the university.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$33,550
Operating Expenses	$0
Capital Expenditures	$0
Total	**$33,550**

Texas State University

Entry: 1

Title: Faculty Start-Up

Description: Research equipment and other startup costs.

Purpose/Intent: Research equipment and other startup costs.

Benefit for the State or Institution: Funding state of the art equipment and laboratories allows us to retain top faculty to instruct and perform research.

Salaries/Wages for New or Reassigned FTEs	$655,111
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$619,220
Capital Expenditures	$1,072,309
Total	**$2,346,640**

Entry: 2

Title: Grant Support

Description: Provides supplemental funding for grant research.

Purpose/Intent: Provides supplemental funding for grant research.

Benefit for the State or Institution: Leverages institution's ability to get new or continuing research grants.

Salaries/Wages for New or Reassigned FTEs	$1,203,103
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$32,221
Capital Expenditures	$141,768
Total	**$1,377,092**

Entry: 3

Title: Science, Technology, and Advanced Research (STAR) Park

Description: Center allows Texas State scientists to commercialize their Research and work with private sector firms.

Purpose/Intent: Center allows Texas State scientists to commercialize their Research and work with private sector firms.

Benefit for the State or Institution: Center allows Texas State to make critical contributions to the nation in the fields of energy, security, and health science.

Salaries/Wages for New or Reassigned FTEs	$267,570
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$178,966
Capital Expenditures	$0
Total	**$446,535**

Entry: 4

Title: Service and Maintenance Contracts

Description: Pays for service, maintenance and calibration of research equipment.

Purpose/Intent: Pays for service, maintenance and calibration of research equipment.

Benefit for the State or Institution: Maintains state of the art equipment in research labs.

Salaries/Wages for New or Reassigned FTEs	$43,314
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$268,823
Capital Expenditures	$21,095
Total	**$333,233**

Entry: 5

Title: Faculty Start-Up encumbered

Description: NA

Purpose/Intent: NA

Benefit for the State or Institution: NA

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$91,677
Capital Expenditures	$43,754
Total	**$135,431**

Texas Tech University

Entry: 1

Title: Cost Sharing/Matching

Description: Funding allocated to provide matching funds to extramural research projects.

Purpose/Intent: The fund was established to cover committed and voluntary cost share for extramural funding, enabling faculty to conduct research and advancing the mission of the University.

Benefit for the State or Institution: This investment helps Texas Tech University build research capacity to attract top tier research faculty, be more competitive for extramural funding and assists faculty in meeting the requirements of certain awards.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$786,949
Operating Expenses	$33,588
Capital Expenditures	$10,412
Total	**$830,949**

Entry: 2

Title: Center Support

Description: Support for multiple centers and institutes including the National Wind Institute, Animal Care Services, the Neuroimaging Center, and the Center for Pulsed Power and Power Electronics.

Purpose/Intent: To enhance multidisciplinary programs by providing support to the centers and seed grants to researchers. These investments into bolster existing research programs and support the continued growth of multidisciplinary programs.

Benefit for the State or Institution: One example is the National Wind Institute which provides education in the form of a Bachelor's degree in Wind Energy. The institute has 112 mesonet stations across Texas, New Mexico, and Colorado. The researchers travel the country surveying damage from tornados, hurricanes and other wind events as part of the wind hazard research program.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$918,891
Operating Expenses	$401,190
Capital Expenditures	$47,186
Total	**$1,367,267**

Title: Start-Up Support

Description: Core Research Support funding assisted approximately 103 individual investigators in an effort to build nationally recognized areas of research excellence.

Purpose/Intent: To enhance the national reputation of research at Texas Tech University and for the state, the University is investing in individual research investigators across all disciplines in an effort to increase extramural research funding and facilitate interdisciplinary research groups and projects. Core Research Support fund investments provide unique opportunities for investigators to launch focused research initiatives and train our students for the future research and education workforce.

Benefit for the State or Institution: CRS funds allow Texas Tech University to recruit exceptional researchers who are working toward solutions to improve the economic and human health of Texans. An excellent example is the research being conducted by Dr. Sasha Protopopova. The Human-Animal Interaction Lab, directed by Dr. Protopopova, systematically explores questions of companion animal well-being, behavior, and human-animal interactions. Our research aims are

1) to improve the well-being of pet dogs and dogs housed in animal shelters through the development of behavioral interventions,
2) assess and develop therapy dog programs to benefit human health and educational outcomes, and
3) improve our general understanding of animal abnormal behavior.

Salaries/Wages for New or Reassigned FTEs	$662,780
Salaries/Wages for Existing FTEs	$2,466,460
Operating Expenses	$130,757
Capital Expenditures	$227,310
Total	**$3,487,307**

Entry: 4

Title: Salary Support (non-start up)

Description: Provides support to the most active research faculty. Recipients are identified by the college. The selections are reviewed by the Provost's office. Approximately 45 faculty members salary was partially paid from Core Research Support funds.

Purpose/Intent: To support research activities and increase external research funding opportunities.

Benefit for the State or Institution: CRS funds allow Texas Tech University to retain exceptional researchers. By using CRS funds to support research, institutional funds are freed up to continue to support superior teaching experiences for the students.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$5,654,052
Operating Expenses	$0
Capital Expenditures	$0
Total	**$5,654,052**

Texas Woman's University

Entry: 1

Title: Summer Research Initiative

Description: The purpose of the summer faculty research support initiative is to provide funds to a faculty member or research team during the summer to enable them to submit an external proposal for research as defined by the Texas Higher Education Coordinating Board (THECB).

Purpose/Intent: Faculty from the Departments of Biology, Nutrition and Food Sciences, Library and Information Studies, Psychology and Philosophy, Chemistry and Biochemistry, Mathematics and Computer Sciences, and Family Sciences were supported.

Benefit for the State or Institution: These funds assisted in increasing the number of research proposals submitted for external funding, therefore contributing to faculty and graduate student research and scholarly productivity.

Salaries/Wages for New or Reassigned FTEs	$34,424
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,690
Capital Expenditures	$0
Total	**$37,114**

Entry: 2

Title: Dallas Research Office

Description: Initiative to establish a research infrastructure and to support and increase research at the T. Boone Pickens Institute of Health Sciences - Dallas Center.

Purpose/Intent: Funds are used to provide partial salary support for the Research Development Officer for the Dallas Research Office.

Benefit for the State or Institution: A part-time Research Development Officer supported by these CRF, an NIH BRAD grant, and other Texas Woman's University resources coordinates the efforts to provide on-site resources to Dallas-campus researchers.

Salaries/Wages for New or Reassigned FTEs	$13,852
Salaries/Wages for Existing FTEs	$4,077
Operating Expenses	$0
Capital Expenditures	$0
Total	**$17,929**

Entry: 3

Title: Center for Research Design and Analysis

Description: Provide support to faculty and students for qualitative and quantitative research.

Purpose/Intent: Funds are used to supplement University resources to launch Texas Woman's University's Center for Research Design and Analysis.

Benefit for the State or Institution: These funds assisted in increasing statistical and research design support to faculty for their current research projects, increased faculty and students' knowledge about the research process and data analysis, and trained graduate research students in research and data analysis.

Salaries/Wages for New or Reassigned FTEs	$5,913
Salaries/Wages for Existing FTEs	$43,512
Operating Expenses	$10,477
Capital Expenditures	$0
Total	**$59,901**

Entry: 4

Title: Student Creative Arts & Research Symposium

Description: The Student Creative Arts & Research Symposium is a two-day symposium for student scholars at Texas Woman's University (TWU). The Symposium provides TWU students with the opportunity to present their research as a poster presentation, platform presentation, visual arts exhibit, or a presentation using the virtual platform.

Purpose/Intent: Funds were expended to pay the keynote speaker and provide partial costs for printing the program.

Benefit for the State or Institution: The program provides students an opportunity to present their research and creative arts activities and learn about the scholarship of others.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,735
Capital Expenditures	$0
Total	**$1,735**

Entry: 5

Title: Departmental Research Support

Description: Initiative to increase research at Texas Woman's University in the College of Health Sciences.

Purpose/Intent: Funds were provided for departmental support within the College of Health Sciences to support initiatives within the college.

Benefit for the State or Institution: These funds assisted faculty in the Departments of Kinesiology and Nutrition & Food Sciences to purchase small research equipment and pay for subject incentives.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,704
Capital Expenditures	$0
Total	**$2,704**

Entry: 6

Title: Editorial and Grant Writing Support

Description: Initiative to provide editorial support.

Purpose/Intent: Funds were used to pay a proposal submission fee to the American Nursing Association, to pay a reviewer for an NIH grant proposal, and to pay for translation services for a proposal that required a Spanish and English version.

Benefit for the State or Institution: These funds assisted faculty members from Nursing, Nutrition and Food Sciences and Family Sciences to submit more competitive proposals for external funding.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,015
Capital Expenditures	$0
Total	**$2,015**

Entry: 7

Title: Compliance and Training Support

Description: To provide resource materials and training for researchers and compliance committees.

Purpose/Intent: Funds were used to pay for new IACUC chair to travel to IACUC conference for training and to purchase NIH resource materials to be made available for researchers through Research and Sponsored Programs.

Benefit for the State or Institution: To continue to provide and strengthen the research compliance infrastructure at Texas Woman's University.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,600
Capital Expenditures	$0
Total	**$1,600**

Entry: 8

Title: Small Grants Program

Description: Small Grants are primarily intended to allow principal investigators to take advantage of unusual opportunities that arise, particularly to obtain preliminary or pilot data in support of research that could eventually become the basis for a proposal for external funding for a research grant.

Purpose/Intent: Small grants were provided to faculty in the Departments of Health Studies, Kinesiology, Nutrition and Food Sciences, Biology, Occupational Therapy, Physical Therapy, Psychology and Philosophy, Reading, and History and Government to support research projects that may eventually lead to publication and future funding.

Benefit for the State or Institution: This small grants program focuses on advancing research for various faculty by supporting the conduct, publication, and progression of research for faculty.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$9,725
Capital Expenditures	$0
Total	**$9,725**

Entry: 9

Title: Research Enhancement Program: "Effect of High-Intensity Interval Exercise on Growth Hormone in Overweight and Obese Women" (Biggerstaff)

Description: These funds were used to support a project submitted to the Research Enhancement Program (REP) (PI: Dr. Kyle Biggerstaff, Kinesiology). This program provides support to faculty research projects in the form of seed money so faculty members will be able to successfully compete for larger external grants that will enable them to continue the research.

Purpose/Intent: The purpose of this study is to examine the effect of high-intensity interval exercise session (HIE) on pulsatile growth hormone secretion compared to a control trial (CON, no exercise) and a moderate-intensity exercise trial (MOD).

Benefit for the State or Institution: The measurement of GH will be a new analysis for this lab that is likely to promote future hormonal analyses in response to exercise interventions of metabolism. The results of this study will be the basis for future grant proposals to the National Institute of Health: National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), the American Diabetes Association, and/or the National Strength and Conditioning Association.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$6,678
Capital Expenditures	$0
Total	**$6,678**

Entry: 10

Title: Research Enhancement Program: "Understanding the Functional Consequences of Methyl-CpG Binding Protein 2 Knockout on Behavioral Responses to Food Reward" (Na)

Description: These funds were used to support a project submitted to the Research Enhancement Program (REP) (PI: Dr. Elisa Na, Psychology and Philosophy). This program provides support to faculty research projects in the form of seed money so faculty members will be able to successfully compete for larger external grants that will enable them to continue the research.

Purpose/Intent: The purpose of this study is to understand the functional role of methyl-CpG-binding protein (MeCP2) on the development of obesity in transgenic mouse models.

Benefit for the State or Institution: Data collected from this grant will be used to apply for an Academic Research Enhancement Award (AREA; R15) grant from NIDDK. The data will also serve as the basis for funding applications to private agencies such as the International Rett Syndrome Foundation, the Brain & Behavior Research Foundation, and the Foundation for Prader-Willi Research.

Salaries/Wages for New or Reassigned FTEs	$738
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$2,306
Capital Expenditures	$0
Total	**$3,043**

Entry: 11

Title: Research Enhancement Program: "Biomechanical Comparison during Walking in Adults Using Traditional Locked Knee Ankle Foot Orthoses (KAFOs) Versus Stance-Control KAFOs" (Bickely & Ortiz)

Description: These funds were used to support a project submitted to the Research Enhancement Program (REP) (PIs: Drs. Christina Bickely & Alexis Ortiz, Physical Therapy - Houston). This program provides support to faculty research projects in the form of seed money so faculty members will be able to successfully compete for larger external grants that will enable them to continue the research.

Purpose/Intent: The purpose of this study is to systematically quantify any differences in electromyography (EMG) and gait mechanics as well as qualitative orthosis function between subjects wearing conventional locked knee-ankle-foot orthoses (KAFO) and those same subjects wearing immediate fit stance control KAFOs.

Benefit for the State or Institution: Results from this study will be used as a basis for a proposal to the Department of Defense Orthotics and Prosthetics Outcomes Research Program. The purpose of this program is to support military-relevant personal assistive technology outcomes research by improving our understanding and ultimately advancing the implementation of the most effective prescriptions for prosthetic and orthotic devices, treatment, rehabilitation, and secondary health effect prevention options for patients, clinicians, other caregivers, and policymakers.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$7,623
Capital Expenditures	$0
Total	**$7,623**

Entry: 12

Title: Research Enhancement Program: "Does Wearing a Robotic Exoskeleton Encourage Normal Walking Patters in People after Spinal Cord Surgery?" (Swank & Wang)

Description: These funds were used to support a project submitted to the Research Enhancement Program (REP) (PIs: Drs. Chad Swank & Sharon Wang, Physical Therapy - Dallas). This program provides support to faculty research projects in the form of seed money so faculty members will be able to successfully compete for larger external grants that will enable them to continue the research.

Purpose/Intent: The purposes of this study are to examine if wearing and EXO affects kinematics, kinetics, and EMG activity during walking in people with SCI and to determine if people with SCI walking in an EXO have similar walking parameters to those of healthy controls with or without EXO.

Benefit for the State or Institution: This pilot study will provide preliminary data on the effect of walking in a robotic exoskeleton on walking parameters in people with SCI. This will be compared with the data previously collected in healthy normals enabling investigators to present initial findings as to whether walking in a robotic exoskeleton after SCI facilitates normal walking patterns. Drs. Wang-Price and Swank are collaborating with Baylor Institute for Rehabilitation on a pilot project comparing EXO with treadmill training in people with SCI and plan to submit for larger funding from NIH and the Craig H. Neilsen Foundation.

Salaries/Wages for New or Reassigned FTEs	$4,836
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,200
Capital Expenditures	$0
Total	**$6,036**

University of Houston

Entry: 1

Title: Development, Operation, and Support of Research Laboratories

Description: The University of Houston's $21.8M Biennial appropriation from the Core Research Support Fund was invested in the development and operation of research labs on campus. This includes investments in lease of research space, equipment purchase, bulk gas, operating expenses, and personnel (e.g., post-doctoral fellows, research lab staff) in programs such as electrical, mechanical and petroleum engineering; educational research, liberal arts and natural sciences research, health and human performance, optometry; and support of research laboratories; and research support staffing and operational expenses.

Purpose/Intent: The purpose of this investment is to provide faculty with the laboratories and research support they need in order to conduct research and compete for extramural research grants, particularly from the federal government. High quality research labs are also critical to retaining and recruiting high quality faculty and students (especially graduate students) to the University of Houston.

Benefit for the State or Institution: Investments made in research laboratories and research support will bring to both the University and the State more top faculty and students, higher levels of research funding, and the development of new technologies, all of which are critical to the economic future of Texas.

Salaries/Wages for New or Reassigned FTEs	$6,916,094
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$3,950,898
Capital Expenditures	$653,104
Total	**$11,520,096**

University of Houston-Clear Lake

Entry: 1

Title: Criteria for Establishing Optimal Chemical Resistance of Chemical Protective Gloves

Description: NA

Purpose/Intent: Aimed at identifying key polymer properties associated with the chemical resistance of chemical protective gloves.

Benefit for the State or Institution: The results from the project will be used in technical papers and research presentations at local, national, and international meetings and will provide results to be used for future NIH, NSF, and local grant proposals.

Salaries/Wages for New or Reassigned FTEs	$960
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$960**

Entry: 2

Title: Models of New Physics at the Large Hadron Collider

Description: NA

Purpose/Intent: Construct models within the framework of supersymmetric extensions of the SM.

Benefit for the State or Institution: The results of this study should then be published as articles in high-impact peer-reviewed journals, such as Physical Review D and Physics Letters B. In addition, these results will be presented in conference presentations, by both the PI and graduate/undergraduate research assistants. This will provide useful training to students in preparing scientific articles as well as giving presentations.

Salaries/Wages for New or Reassigned FTEs	$612
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$612**

Entry: 3

Title: Uncertainty in Dynamic Disaster Relief Logistic Planning

Description: NA

Purpose/Intent: Evaluating this tradeoff by creating routing plans while considering two separate streams of information:

(i) unverified data describing demand that is not known with certainty, obtained from social media platforms and

(ii) verified data describing demand known with certainty, obtained from trusted traditional sources (i.e. on the ground assessment teams).

Benefit for the State or Institution: This research will contribute to the body of literature that addresses questions surrounding the usefulness of social data for dynamic disaster relief tour planning.

Salaries/Wages for New or Reassigned FTEs	$600
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$600**

Entry: 4

Title: EIH Main Research Development

Description: Environmental Research and Education Funds.

Purpose/Intent: Funds are used to provide seed funding in the field of environmental research and education support. Funds support research conducted by University of Houston (UH) System faculty researchers and educators in the fields of environmental science, fisheries science, chemistry, geology, meteorology, biology and hydrology.

Benefit for the State or Institution: NA

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$21,706
Operating Expenses	$1,009
Capital Expenditures	$0
Total	**$22,715**

Entry: 5

Title: Using Wearable Technology to Decrease Sentinel Errors Made in Clinical Nursing Practice

Description: NA

Purpose/Intent: Initiate the use of wearable technology that records biometric data to increase effectiveness of communication amongst nursing staff and other healthcare team members.

Benefit for the State or Institution: This will further add to the body of literature on human-automation interaction in healthcare, through conference presentations and publications in peer-reviewed journals, and will be used to seek external funding.

Salaries/Wages for New or Reassigned FTEs	$1,800
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$1,800**

Entry: 6

Title: Faithfully Serving God and Country: Foreign-born Nurses Caring for U.S. Veterans of Foreign Wars

Description: NA

Purpose/Intent: Mobilizing survey and interview data from foreign-born nurses working at a veteran's hospital in Texas, this book explores the complex and dynamic intersections of religion and globalization in Indian and Filipino nurse migration as they care for veterans of foreign wars.

Benefit for the State or Institution: Manuscript publication with institutional acknowledgement.

Salaries/Wages for New or Reassigned FTEs	$250
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$250**

Entry: 7

Title: Comprehensive Analytics and Data Exploration Testbed (CADET): A Comprehensive Research and Software Engineering Testbed for Effective Predictive Analytics and Data Mining

Description: NA

Purpose/Intent: Produce a robust software engineering testbed by integrating existing data mining tools and data sources to create a COMPREHENSIVE ANALYTICS AND DATA EXPLORATION TESTBED (CADET).

Benefit for the State or Institution: Enhanced collaboration will more efficiently facilitate external grant funding via efficient concept validation, and system development through CADET's robust nature. In addition to the traditional theoretical basis typically provided in a grant application, CADET will also allow demonstration of the practicality of a proposed concept by showing actual system performance using real-world data. CADET will also serve as the basis for future Capstone courses and potentially for a new course in R programming.

Salaries/Wages for New or Reassigned FTEs	$1,133
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$1,133**

Entry: 8

Title: IoT System Assisted Home-based Exercise Evaluation

Description: NA

Purpose/Intent: Proposes to utilize the emerging Internet of Things (IoT) technologies to improve the ways that physical activity (unsupervised, home-based exercise) can be measured, modeled, and evaluated.

Benefit for the State or Institution: The student in this project will develop the skills of problem-solving, critical-thinking and scientific-evaluation. The results of the project will be used in clinical environment in future to benefit the patients and will be integrated into the University of Houston-Clear Lake coursework to educate the students.

Salaries/Wages for New or Reassigned FTEs	$1,500
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$1,500**

Entry: 9

Title: Pilot Program for Clinical Data Collection from Psychological Services Clinic Clients for Interdisciplinary Use Among Psychology Departments and Other Disciplines at the University of Houston-Clear Lake (UHCL)

Description: NA

Purpose/Intent: Provide a database of clinical data from which faculty, and students can inform and base empirical research projects that lead to peer-reviewed publications.

Benefit for the State or Institution: Data will be accessible to faculty and staff with clinical research interests. Both cross-sectional and longitudinal research can be support by these data.

Salaries/Wages for New or Reassigned FTEs	$750
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$750**

Entry: 10

Title: Improving Advanced Encryption Standard (AES) Core Performance via A Novel On-Chip Bus Architecture using Field-Programmable Gate Arrays (FPGA)

Description: NA

Purpose/Intent: Security in networking is based on cryptography, the science and art of transforming messages to make them secure and immune to attack. Encryption is one of the principal means to guarantee security of information.

Benefit for the State or Institution: After completion of this research project, the FPGA platform will be expanded as the control center of future projects - smart home, smart agriculture, or smart factory 4.0. These projects are very novel and timely, and very attractive as well for external funds.

Salaries/Wages for New or Reassigned FTEs	$1,275
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$562
Capital Expenditures	$0
Total	**$1,837**

Entry: 11

Title: Implementation of a New Datamining Technique to Generate Rules for Rare Classes

Description: NA

Purpose/Intent: Supersymmetric extensions of the SM.

Benefit for the State or Institution: The research product will be demonstrated in data mining application conference and UseR! and similar conferences.

Salaries/Wages for New or Reassigned FTEs	$989
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$989**

Entry: 12

Title: Is Big Data Worth It?

Description: NA

Purpose/Intent: The goal of this proposal is to create a metric/set of metrics that will enable us to answer this very question with greater specificity.

Benefit for the State or Institution: The research product will be published peer-reviewed journals and presented at conferences.

Salaries/Wages for New or Reassigned FTEs	$2,800
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$2,800**

University of Houston-Downtown

Entry: 1

Title: Texas Comprehensive Research Fund

Description: Support the University of Houston-Downtown's Office of Research and Sponsored Programs.

Purpose/Intent: The funding is used to support the Office of Research and Sponsored Programs which facilitates and oversees the research and grant process for the University, including identifying new and available funding, assisting with proposals and post-award support.

Benefit for the State or Institution: The funding provides support for the University's effort to expand its research opportunities, to create new funding sources through additional grant funds and indirect cost recovery as well as providing the proper administration of existing grants. Also to ensure adherence to compliance requirements.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$166,791
Operating Expenses	$0
Capital Expenditures	$0
Total	**$166,791**

University of Houston-Victoria

Entry: 1

Title: Tele-presence for Efficient Tele-robotic through Immersive Virtual Reality

Description: 1. Engaging robots in the development of computational models to understand and explore the physical environment, 2. to research the burgeoning world of digital gaming and simulation.

Purpose/Intent: The intelligent, immersive virtual reality environment will enable the discovery of novel paradigms for establishing a more responsive man-machine cooperation.

Benefit for the State or Institution: The research will make a significant impact on a variety of application in which human operators need to be in communication with and control of cyber-physical systems, when such systems nee dot maintain a sufficiently high level of autonomy.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,316
Capital Expenditures	$0
Total	**$1,316**

University of North Texas

Entry: 1

Title: Institutes of Research Excellence

Description: Support for Institutes of Research Excellence - Advanced Environmental Research Institute (AERI), Advanced Materials Manufacturing and Processes Institute (AMMPI), BioDiscovery Institute (BDI), & Jim McNatt Institute for Logistics Research.

Purpose/Intent: Development and support for Research Institutes of Excellence including: staffing, supplies, equipment, and laboratory renovations.

Benefit for the State or Institution: The Institutes of Research Excellence create interdisciplinary collaboration between researchers, other universities and industry partners that are key to making new discoveries and developing solutions to improve our world and sustain our future. The Institutes of Research Excellence also help leverage UNT's prominence as a national and international leader in research and innovation, and is instrumental in recruitment of elite researchers to the University.

Salaries/Wages for New or Reassigned FTEs	$164,145
Salaries/Wages for Existing FTEs	$235,280
Operating Expenses	$326,973
Capital Expenditures	$1,121,436
Total	**$1,847,834**

Entry: 2

Title: Shared Research Facilities

Description: Support of University Shared Research Facilities: Characterization Lab, Nanofabrication Cleanroom, High Performance Computing (TALON).

Purpose/Intent: Enables researchers centralized access to elite high-tech research equipment and professional laboratory staff. Shared facilities foster increased cross-collaboration between researchers.

Benefit for the State or Institution: University managed and supported facilities allows researcher's access to sophisticated research equipment and instruments that would otherwise be unattainable. Shared research facilities are a cost-efficient solution for expanding access to resources that benefit researchers in many disciplines. Centralized research facilities foster interdisciplinary collaboration between University of North Texas researchers, other universities, and industry partners, that enhance research innovation.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$217,528
Operating Expenses	$392,692
Capital Expenditures	$0
Total	**$610,220**

Entry: 3

Title: Faculty Seed Research

Description: Provides faculty with seed funding to pursue new research projects.

Purpose/Intent: Funding to support faculty research that seeds the pursuit of extramural sponsored grants, or that bridges a gap in extramural funding support.

Benefit for the State or Institution: Promotes faculty participation in pursuing new research by increasing accessibility to startup funding sources. Initial research conducted is then used as basis for proposal submission to secure extramural grant funds that further research and innovation at the University.

Salaries/Wages for New or Reassigned FTEs	$12,398
Salaries/Wages for Existing FTEs	$6,459
Operating Expenses	$16,094
Capital Expenditures	$0
Total	**$34,951**

Entry: 4

Title: Student Research

Description: Support for graduate and undergraduate students to conduct research.

Purpose/Intent: Funding to support student research projects, and the presentation and publication of their research.

Benefit for the State or Institution: Enhances the learning experiences for students and encourages their pursuit of conducting research to enhance innovation at the University.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$3,700
Capital Expenditures	$0
Total	**$3,700**

Entry: 5

Title: Research Support Staff

Description: Staff specifically devoted to assisting research development at the University.

Purpose/Intent: Provide researchers with assistance from professional staff for all aspects of successfully conducting research.

Benefit for the State or Institution: Ensures researchers have a full support system of professional staff to assist them throughout the entire research grant award process. This helps increase the success of researchers in identifying and obtaining external grant funding, staying compliant with governmental regulations and reporting, and the promotion and marketing of research being conducted at the University.

Salaries/Wages for New or Reassigned FTEs	$37,757
Salaries/Wages for Existing FTEs	$205,256
Operating Expenses	$7,944
Capital Expenditures	$0
Total	**$250,956**

Entry: 6

Title: Faculty Research Projects

Description: Support for faculty in conducting existing research projects.

Purpose/Intent: Provides necessary resources to faculty researchers to complete research projects.

Benefit for the State or Institution: Provides faculty researchers with resources required to complete research projects, such as funding for graduate research assistant staff, supplies, and equipment. This expands the researchers ability to conduct research projects timely and effectively, and furthers their ability to obtain new external grant award funding for the University.

Salaries/Wages for New or Reassigned FTEs	$278,544
Salaries/Wages for Existing FTEs	$213,217
Operating Expenses	$127,695
Capital Expenditures	$252,539
Total	**$871,995**

University of North Texas-Dallas

Entry: 1

Title: Purchase of UV-Visible Spectrophotometer (110V)

Description: Purchase of UV-Visible Spectrophotometer (110V).

Purpose/Intent: Research support.

Benefit for the State or Institution: Purchase of the equipment will help the growth and expansion of research work.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$2,439
Total	**$2,439**

The University of Texas at Arlington

Entry: 1

Title: Faculty Salary Support

Description: Salaries paid to Faculty working at The University of Texas at Arlington, including the Colleges of Engineering, Science, Nursing, Education and Schools of Urban and Public Affairs, Social Work, Architecture, etc.

Purpose/Intent: To enable the retention of outstanding research faculty who are sought for employment at other institutions.

Benefit for the State or Institution: This investment lowers faculty turnover rates and the expenses associated with faculty recruitment.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$5,648,440
Operating Expenses	$0
Capital Expenditures	$0
Total	**$5,648,440**

Entry: 2

Title: Graduate Research Assistant Salaries

Description: Salaries paid to Graduate Research Assistants working at The University of Texas at Arlington, including the Colleges of Engineering, Science, Nursing, Education and Schools of Urban and Public Affairs, Social Work, Architecture, etc.

Purpose/Intent: The purpose of these funds is to pay graduate research assistants who provide a vital research support role to our research faculty who are working to generate extramural funding.

Benefit for the State or Institution: The research experience gained by these students is a critical part of their graduate education. They also play a role in generating extramural funding for the University.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$323,466
Operating Expenses	$0
Capital Expenditures	$0
Total	**$323,466**

Entry: 3

Title: Research Technicians and Research Support

Description: Salaries for Research Technicians and Research Support.

Purpose/Intent: The purpose of these funds is to pay research technicians and other research support positions who provide a valuable research support role to our research faculty.

Benefit for the State or Institution: They provide valuable research support which contributes to the University's research mission.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$766,562
Operating Expenses	$0
Capital Expenditures	$0
Total	**$766,562**

The University of Texas at Dallas

Entry: 1

Title: Research Development - Economic Political & Policy Sciences

Description: NA

Purpose/Intent: Economics Political and Policy Sciences programs provide an education that allows the student to understand social phenomena from an economics perspective and to provide students with the substantive and analytical skills necessary to study interesting and important questions about how citizens influence what government does, the responsibilities and effectiveness of government, and the consequences of what public institutions and officials do for individual and community well-being.

Benefit for the State or Institution: Research support funds provide faculty the support to teach students to be able to think critically about choices in the face of limited resources in order to understand more clearly the choices available to society and the economic consequences of decisions.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$133,807
Operating Expenses	$10,013
Capital Expenditures	$0
Total	**$143,820**

Entry: 2

Title: Research Development - Behavioral & Brain Science

Description: NA

Purpose/Intent: Modern non-intrusive methods for monitoring real-time functioning of the human brain have led to issues requiring the definition of normal brain function. A goal of this school is to define the concept of a "healthy" brain as well as developing techniques for the brain as well as developing techniques for the early detection of non-healthy functioning.

Benefit for the State or Institution: Results of this research will have major positive effects upon human health, and will create possible commercial applications, and will reduce burdens upon social service agencies.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$973,889
Operating Expenses	$72,880
Capital Expenditures	$0
Total	**$1,046,769**

Entry: 3

Title: Research Development - Center for Vital Longevity

Description: NA

Purpose/Intent: Research scientists at the Center for Vital Longevity are using advanced brain-imaging technologies and research techniques in cognitive neuroscience to understand and improve the vitality of the aging mind. Center scientists are working to identify a neural signature in middle-aged adults that will help predict who will and will not age well cognitively and who might be at risk of Alzheimer's disease long before symptoms appear. They are working to understand how memories are formed and retrieved and how these processes change with age. And they are investigating the effects of physical exercise and mental stimulation on memory and cognition in young and older adults.

Benefit for the State or Institution: The ultimate goal of the center's wide-ranging studies is to advance our understanding of the aging mind and to improve the long-term cognitive health and vitality of present and future generations. Their focus holds particular importance to our society, which has a higher proportion of older adults than ever before.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$361,587
Operating Expenses	$1,175
Capital Expenditures	$0
Total	**$362,762**

Entry: 4

Title: Research Development - Research

Description: NA

Purpose/Intent: The Office of the Vice President for Research (OVPR) manages the Sponsored Programs (OSP), Research Compliance (ORC), Research Development (ORD) and Technology Commercialization (OTC) operations. These functions are all vital to ensuring the continued growth of the research enterprise at The University of Texas at Dallas (UT-Dallas).

Benefit for the State or Institution: The four offices operating under the OVPR umbrella (OSP, ORC, ORD, and OTC) directly support faculty members in the development and submission of research proposals, negotiation of award contracts, facilitation of compliance with federal, state and local laws and regulations related to research, and the commercialization of technologies developed by UT-Dallas faculty members. All of these functions are integral to the operations of a top tier research university and to the continued development and growth of high quality research in the state.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$3,628,784
Operating Expenses	$43,507
Capital Expenditures	$0
Total	**$3,672,291**

Entry: 5

Title: Research Development - Management

Description: NA

Purpose/Intent: The purpose of the research support funds is to assist the School of Management in furthering its academic excellence goals by providing supplemental funds to conduct research that will enhance management knowledge.

Benefit for the State or Institution: Research support funds provide support to the Jindal School of Management's mission to meet the challenges of a rapidly changing, technology-driven, global society.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$3,221
Operating Expenses	$241
Capital Expenditures	$0
Total	**$3,462**

Entry: 6

Title: Research Development - School of Natural Sciences and Mathematics

Description: NA

Purpose/Intent: The purpose of the research support funds is to assist The University of Texas at Dallas in furthering its academic excellence goals by providing supplemental funds for Faculty and Staff to develop and support research in the areas of Physics, Chemistry, Biology, Mathematics and Geosciences.

Benefit for the State or Institution: The academic and research programs in the School of Natural Sciences and Math create the environment for excellence in student achievement and cutting edge research in the biological, geological, mathematical and physical sciences. Through this research, it will ensure that the North Texas region continues to grow as a science, mathematics, and educational destination, as a source of scientific talent, and as an incubator of new technologies.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$1,232,768
Operating Expenses	$92,253
Capital Expenditures	$0
Total	**$1,325,021**

Entry: 7

Title: Research Development - Engineering and Computer Science

Description: NA

Purpose/Intent: The School of Engineering & Computer Science is creating and maintaining a fearless environment that inspires the pursuit, creation and dissemination of knowledge in the following areas: Analog and mixed-signal circuits and systems, bioengineering, human communication technology, information assurance and cyber security, materials characterization, micro- and nanomanipulation, nanoelectronic materials, devices and systems, organic electronics, physical/chemical and biosensors, RF/microwave technology, wireless communications engineering.

Benefit for the State or Institution: The School of Engineering & Computer Science, created in large part to serve the demands of the Dallas area high-tech community, has capitalized on its unique location and is becoming an integral part of the North Texas 'economic engine.' Research Development funds aid in developing the relationships between The University of Texas at Dallas and industry which benefit our students, the Jonsson School and industry by providing career opportunities for graduate students, co/op/internship opportunities for students, and potential creation of research partnerships.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$2,275,795
Operating Expenses	$170,308
Capital Expenditures	$0
Total	**$2,446,103**

The University of Texas at El Paso

Entry: 1

Title: Grant Cost Shares

Description: Cost share for major sponsored projects.

Purpose/Intent: CORE funds were invested to cover the committed and voluntary cost shares for national competitive federal grants sponsored by the National Science Foundation, The National Institute of Health, the Office of Naval Research and the Air Force Office of Scientific Research.

Benefit for the State or Institution: Cost sharing projects not only helps principal investigators to meet the needs of the grant, but also shows institutional support to the agencies where the return on investment is beneficial to The University of Texas at El Paso, the students, and the researchers involved.

Salaries/Wages for New or Reassigned FTEs	$121,905
Salaries/Wages for Existing FTEs	$77,978
Operating Expenses	$238
Capital Expenditures	$300,000
Total	**$500,120**

Entry: 2

Title: Veterinary Services

Description: Operating support for Veterinary Services Office.

Purpose/Intent: In recent years, The University of Texas at El Paso (UT-El Paso) has aggressively expanded its research agenda to increase capacity in biomedical and health-related research. As part of these efforts, UT-El Paso recently completed the new Biosciences building, which houses animal research facilities, vivaria, and Biosafety Level 3 containment facilities. These research facilities also demand that all research dealing with animals (funded and unfunded) be in compliance with animal welfare regulations of the Office of Laboratory Animal Welfare (OLAW) of the US Department of Health and Human Services. CORE funds were used to cover capital and operating expenditures in support of the Veterinary Services Office.

Benefit for the State or Institution: The CORE investment will allow the execution of biomedical and health -related research to be in compliance with OLAW federal regulations.

Salaries/Wages for New or Reassigned FTEs	$8,436
Salaries/Wages for Existing FTEs	$195,918
Operating Expenses	$118,621
Capital Expenditures	$0
Total	**$322,975**

Entry: 3

Title: Start-Up Packages

Description: The University uses these funds to provide support for newly hired faculty who are expected to establish funded research programs.

Purpose/Intent: The intent of this program is to attract new, highly competitive research faculty in order to increase the level of research funding and enhance institutional excellence. The funds are used for salaries and wages for faculty members, post-Docs, research technicians, laboratory assistants, capital expenditures, and operating expenses required to operate and maintain laboratories for the purpose of research production.

Benefit for the State or Institution: These investments have helped The University of Texas at El Paso in building research capacity and becoming more effective in securing competitive research funding. This enables the hiring of strong faculty who will enhance the standing of the institution and contribute to its research and instructional missions.

Salaries/Wages for New or Reassigned FTEs	$397,444
Salaries/Wages for Existing FTEs	$666,953
Operating Expenses	$440,954
Capital Expenditures	$168,372
Total	**$1,673,722**

Entry: 4

Title: Research Initiatives

Description: The University uses these funds to provide transitional salary and support for newly hired faculty and faculty that need to be retained for their research credentials.

Purpose/Intent: The intent of this program is to retain existing faculty and attract new, highly competitive research faculty in order to increase the level of research funding and enhance institutional excellence. The funds are used for capital expenditures, operating expenses, and salaries and wages for research assistants, post-Docs and laboratory technician and salaries for faculty members.

Benefit for the State or Institution: These CORE investments have helped The University of Texas at El Paso in building research capacity and becoming more effective in securing competitive research funding. This enables the hiring of strong faculty who will enhance the standing of the institution and contribute to its research and instructional missions.

Salaries/Wages for New or Reassigned FTEs	$767,186
Salaries/Wages for Existing FTEs	$1,486,271
Operating Expenses	$681,223
Capital Expenditures	$63,744
Total	**$2,998,424**

Entry: 5

Title: Office of Technology Commercialization

Description: OTC works with The University of Texas at El Paso researchers to commercialize their ideas by providing services such as best-in-class innovation practices; technology, intellectual property and patent strategies; licensing strategies, market research; business strategy and plan development; company formation, organization structures and capitalization strategies; fundraising; incubation; and recruitment strategies.

Purpose/Intent: The purpose of OTC is to be the single portal to assist customers on innovation, entrepreneurship, technology transfer, and commercialization.

Benefit for the State or Institution: The outcomes of OTC not only have enhanced tech transfer operations, but also are expected to contribute to the economic development of the El Paso Region.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$280,650
Operating Expenses	$112,111
Capital Expenditures	$0
Total	**$392,761**

Entry: 6

Title: Institutional Animal Care and Use Committee

Description: Operating support for the Institutional Animal Care and Use Committee (IACUC).

Purpose/Intent: The purpose of the IACUC is to assure that The University of Texas at El Paso researchers care for and use animals in ways judged to be scientifically, technically, and humanely appropriate. The committee provides research oversight and evaluation of the institution's animal care and use program and facilities by ensuring compliance with federal regulations related to the proper care, use, and humane treatment of animals used in research, testing and education. The IACUC also provides assistance to investigators in fulfilling their obligation to plan and conduct animal research in accordance with the highest scientific and ethical principles.

Benefit for the State or Institution: The CORE investment will allow the execution of animal related research to be in compliance with the Public Health Service Policy on Humane Care and Use of Laboratory Animals; United States Department of Agriculture-Animal and Plant Health Inspection Service; U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research and Training; and Code of Federal Regulations, 1989, Title 9, Parts 1, 2, and 3 (Animal Welfare Final Rules).

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$74,735
Operating Expenses	$0
Capital Expenditures	$0
Total	**$74,735**

Entry: 7

Title: Strategic Hires

Description: The strategic hires program provides funding to Colleges to recruit outstanding and high-profile faculty researchers who are aligned to the educational and research mission of the University.

Purpose/Intent: The purpose of the program is to provide agility to the University in the strategic recruitment of outstanding faculty who advance the University to attain a National Research University status.

Benefit for the State or Institution: The recruitment of high-profile faculty members is one way to enhance the caliber of research at The University of Texas at El Paso and to increase the quality of education the students deserve.

Salaries/Wages for New or Reassigned FTEs	$72,222
Salaries/Wages for Existing FTEs	$162,449
Operating Expenses	$0
Capital Expenditures	$0
Total	**$234,672**

Entry: 8

Title: Research Centers Support

Description: This program provides start-up and transitional support for the establishment of research centers with an aggressive extramural funding agenda.

Purpose/Intent: The purpose of these funds is to provide start-up and transitional support to develop the infrastructure of the Center for Space Exploration Research and Technologies and the Future Aerospace Science and Technology Center. These two centers have secured multiple grants from federal agencies and aerospace industry partners with obligations exceeding $7 million.

Benefit for the State or Institution: The investment is effectively used to leverage extramural funding, which in turn, provides support for the educational and research mission of the University.

Salaries/Wages for New or Reassigned FTEs	$85,960
Salaries/Wages for Existing FTEs	$1,240,191
Operating Expenses	$56,558
Capital Expenditures	$0
Total	**$1,382,709**

Entry: 9

Title: University Research Institute

Description: Funding program for individuals in full-time positions for which research productivity is an expected requirement.

Purpose/Intent: The University Research Institute provides funding assistance to those full-time individuals that have submitted proposals to the Faculty Research Senate Committee and meet all requirements. Funding assistance is awarded to those proposals that assist in the development of new junior faculty members, assist in the development of research programs that will attract external sources of funds, and make maximum use of resources and facilities available within The University of Texas at El Paso (UT-El Paso).

Benefit for the State or Institution: The URI grants have been one of the most important means to support research faculty at UT-El Paso. The funds have provided infrastructure support for research to engage in pilot studies or further current research activities. This, in turn, allowed many of these researchers to obtain and apply external funding from major science and engineering funding agencies. This URI funding has been used by these researchers in many ways such as conference travel, equipment purchase, supplies and materials purchase, and in some cases student research assistant support.

Salaries/Wages for New or Reassigned FTEs	$31,276
Salaries/Wages for Existing FTEs	$4,095
Operating Expenses	$25,703
Capital Expenditures	$0
Total	**$61,074**

Entry: 10

Title: Research Equipment

Description: Funds were allocated for acquisition, maintenance and support of research equipment in the Colleges of Science, Engineering, Liberal Arts and Health Sciences.

Purpose/Intent: The University of Texas at El Paso (UT-El Paso) continues to expand its research agenda to increase research capacity in the STEM disciplines. As part of these efforts, UT-El Paso has acquired a number of scientific instruments which are heavily used for sponsored research projects. In order to avoid service interruptions, several of these instruments were placed in yearly maintenance contracts using CORE Funds. New equipment was also acquired replacing obsolete items.

Benefit for the State or Institution: These CRSF and the TCRF investments have helped UT-El Paso in building research capacity and becoming more effective in securing competitive research funding.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$260,452
Capital Expenditures	$0
Total	**$260,452**

The University of Texas of the Permian Basin

Entry: 1

Title: Welch Grant 2016.2017

Description: Allow for research by the Chemistry Department.

Purpose/Intent: To support chemical research by faculty members of the Chemistry Department and to provide an opportunity for students to study chemistry in a less structured way.

Benefit for the State or Institution: The funds support the growth and research activities of the College of Arts and Sciences Chemistry department that build upon the work The University of Texas of the Permian Basin does in educating STEM students to enrich the workforce expertise in the region and the state; its availability serves as an important faculty retention tool.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$5,008
Operating Expenses	$18,017
Capital Expenditures	$511
Total	**$23,536**

Entry: 2

Title: Text Messaging Study

Description: Provide performing agent compensation to participate in study.

Purpose/Intent: To provide support for the pilot sites for the CU-Nudges to the Finish Line: Experimental Interventions to Prevent College Late Departure Grant.

Benefit for the State or Institution: For too many years, college completion programs have focused on students at the start of their university journey. This grant helps The University of Texas of the Permian Basin explore interventions for those students near the end of their academic path. A new employee starting January 8 will be able to use these funds for targeted interventions.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$0
Capital Expenditures	$0
Total	**$0**

Entry: 3

Title: SPSP Research Meta-Perception

Description: Meta-perception of the police.

Purpose/Intent: To investigate the influence of meta-dehumanization on police cooperation and support.

Benefit for the State or Institution: The funds support research into how to counter adverse perception of law enforcement agencies following media coverage of incidents that may suggest police brutality. Solutions will encourage the general population of the region and state to view police and other agencies in a more positive and empathetic way.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$1,488
Capital Expenditures	$0
Total	**$1,488**

The University of Texas Rio Grande Valley

Entry: 1

Title: Texas Comprehensive Research Fund

Description: Monies received from the Texas Comprehensive Research Fund may only be used for the support and maintenance of educational and general activities, including research and students services, that promote increased research capacity in accordance to the mission and goals of the institution.

Purpose/Intent: For the support and maintenance of E&G and Research activities that promote increased research capacity for The University of Texas Rio Grande Valley (UTRGV).

Benefit for the State or Institution: UTRGV engages with health providers, industry and other business leaders, educational and other community organization to find solutions to civic, economic, environmental and social challenges through inquiry and innovation, and supporting specialized instructional/research spaces by providing the equipment and infrastructure to fully utilize technological advances. The Texas Comprehensive Research fund supports all of these endeavors through funding that would otherwise not be available to us. The allocation for FY 2017 was utilized to support professional staff in the Office of Research and Sponsored Programs, for research assistants, scientific labs and computer equipment, software, research travel, chemicals and other supplies for faculty members to implement their research agendas. The Texas Comprehensive Research Fund is undoubtedly a good investment for UTRGV to continuously improve and advance the cause of education and research in this region which will, in turn, benefit the state and nation.

Salaries/Wages for New or Reassigned FTEs	$282,227
Salaries/Wages for Existing FTEs	$209,956
Operating Expenses	$385,533
Capital Expenditures	$291,932
Total	**$1,169,648**

The University of Texas at San Antonio

Entry: 1

Title: Research Development and Support

Description: Funding allocated to support various research initiatives.

Purpose/Intent: Purpose is to establish a foundation of assistance for research-engaged faculty and students.

Benefit for the State or Institution: Enables The University of Texas at San Antonio to increase awareness of its research capabilities, support collaboration across all academic disciplines, promote high standards of research integrity and scholarly excellence, and protect the institution's intellectual property.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$68,278
Operating Expenses	$156,398
Capital Expenditures	$16,590
Total	**$241,266**

Entry: 2

Title: Engineering Faculty Research Support

Description: Funding provided to College of Engineering to support existing research faculty.

Purpose/Intent: Purpose is to retain existing outstanding researcher faculty who are aligned to research strategic goals of the institution.

Benefit for the State or Institution: Faculty supported through this program submitted 89 proposals in FY17 requesting $24,201,097. They received 22 awards for $1,941,102.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$1,366,296
Operating Expenses	$0
Capital Expenditures	$0
Total	**$1,366,296**

Entry: 3

Title: Science Faculty Research Support

Description: Funding provided to College of Sciences to support existing research faculty.

Purpose/Intent: Purpose is to retain existing outstanding researcher faculty who are aligned to research strategic goals of the institution.

Benefit for the State or Institution: Faculty supported through this program submitted 83 proposals in FY17 requesting $47,187,633. They received 31 awards for $12,913,422.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$1,352,939
Operating Expenses	$24,291
Capital Expenditures	$60,300
Total	**$1,437,530**

Entry: 4

Title: Business Faculty Research Support

Description: Funding provided to College of Business to support existing research faculty.

Purpose/Intent: Purpose is to retain existing outstanding researcher faculty who are aligned to research strategic goals of the institution.

Benefit for the State or Institution: Faculty supported through this program submitted 41 proposals in FY17 requesting $14,588,788. They received 17 awards for $1,559,328.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$1,978,220
Operating Expenses	$0
Capital Expenditures	$0
Total	**$1,978,220**

Entry: 5

Title: GREAT Program (Grants for Research Advancement and Transformation)

Description: Seed grant program to support new areas of research for tenured/tenure track faculty.

Purpose/Intent: This program enables faculty to assemble preliminary data that can be used to seek extramural funding and advance The University of Texas at San Antonio's goal of reaching Tier One status.

Benefit for the State or Institution: Faculty supported through the GREAT program submitted 18 proposals in FY17 requesting $2,749,344. 2 proposals were funded in FY17 for $69,311.

Salaries/Wages for New or Reassigned FTEs	$79,814
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$17,051
Capital Expenditures	$0
Total	**$96,865**

Entry: 6

Title: INTRA (Internal Research Awards) Program

Description: Seed grant program to promote research and scholarly excellence.

Purpose/Intent: This program offers experience in identifying and submitting applications to potential funding sources, provides preliminary data to support applications for extramural funding, and enhances scholarly and creative activities.

Benefit for the State or Institution: Faculty supported through the INTRA program submitted 20 proposals in FY17 requesting $11,138,234 and received 8 awards totaling $109,467.

Salaries/Wages for New or Reassigned FTEs	$130,076
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$10,524
Capital Expenditures	$0
Total	**$140,600**

Entry: 7

Title: Connecting through Research Partnerships (CONNECT) Program

Description: Seed grant program to enhance greater scientific collaboration between The University of Texas at San Antonio and Southwest Research Institute.

Purpose/Intent: This program seeks to encourage interaction and promote cross-campus collaborative programs.

Benefit for the State or Institution: CONNECT leverages partnership resources and expertise in joint research collaborations in pursuit of large scale, federal funding opportunities. In FY17 faculty through this program submitted 12 proposals for $2,881,617 and received 7 awards for $1,488,966.

Salaries/Wages for New or Reassigned FTEs	$39,576
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$10,648
Capital Expenditures	$0
Total	**$50,224**

The University of Texas at Tyler

Entry: 1

Title: Research Development Fund Annual Report

Description: Increase Research Enhancement Budget.

Purpose/Intent: These funds enable the University to fund several small faculty research grants. Such grants are aimed at helping faculty members generate initial results necessary to successfully obtain funding from extramural grant sources.

Benefit for the State or Institution: These funds provide seed money for research projects and provide institutions the ability to acquire resources that would otherwise be unattainable through standard appropriations.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$53,156
Operating Expenses	$158,480
Capital Expenditures	$0
Total	**$211,636**

West Texas A&M University

Entry: 1

Title: Academic & Research Environmental Health and Safety (AR-EHS)

Description: Centrifuge rotor, Fire systems dialers, Particle counter, 4 gas meter, Drager pump and tubes.

Purpose/Intent: Lab Equipment & Lab Safety Equipment.

Benefit for the State or Institution: Small equipment purchases provide for greater flexibility in the type of research West Texas A&M University researchers are able to do in our labs and provides increased lab safety.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$0
Operating Expenses	$14,576
Capital Expenditures	$0
Total	**$14,576**

Entry: 2

Title: Academic & Research Environmental Health and Safety (AR-EHS)

Description: Salary.

Purpose/Intent: Partially pays for the Director's salary.

Benefit for the State or Institution: AR-EHS supports academic and research by providing a safe educational and research environment for students, staff and faculty. The office provides safety inspections to ensure all activities are conducted in accordance with all environmental regulations and laws.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$22,919
Operating Expenses	$0
Capital Expenditures	$0
Total	**$22,919**

Entry: 3

Title: Core Laboratories

Description: Salary.

Purpose/Intent: Partially pays for the Lab Director's salary.

Benefit for the State or Institution: The Core Lab supports laboratory research by providing faculty and students with shared equipment and expertise to achieve their research goals.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$25,866
Operating Expenses	$0
Capital Expenditures	$0
Total	**$25,866**

Entry: 4

Title: Sponsored Research Services (SRS)

Description: Salary.

Purpose/Intent: Pays salary for the pre award sponsored project function.

Benefit for the State or Institution: SRS supports faculty and staff campus-wide by identifying external funding opportunities. Sponsored project administration and compliance requirements for externally sponsored projects are supported through SRS. Internal grant competitions for faculty, graduate students and undergraduate students are also administered from this office. The internal grant programs provide students in all fields of study exposure to the research environment and facilitates faculty in acquiring preliminary data used in their external proposals. Non-financial post award administration is also managed in the office of Sponsored Research Services.

Salaries/Wages for New or Reassigned FTEs	$0
Salaries/Wages for Existing FTEs	$139,025
Operating Expenses	$0
Capital Expenditures	$0
Total	**$139,025**

This document is available on the Texas Higher Education Coordinating Board website.

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